

9831 FEB 6 1950 FEBRUARY, 1950

# Commercial Refrigeration

AND AIR CONDITIONING



MERCHANDISING, SELLING, INSTALLATION AND MAINTENANCE OF  
COMMERCIAL REFRIGERATION AND AIR CONDITIONING EQUIPMENT

# *The First Really New*

## EVAPORATIVE CONDENSER

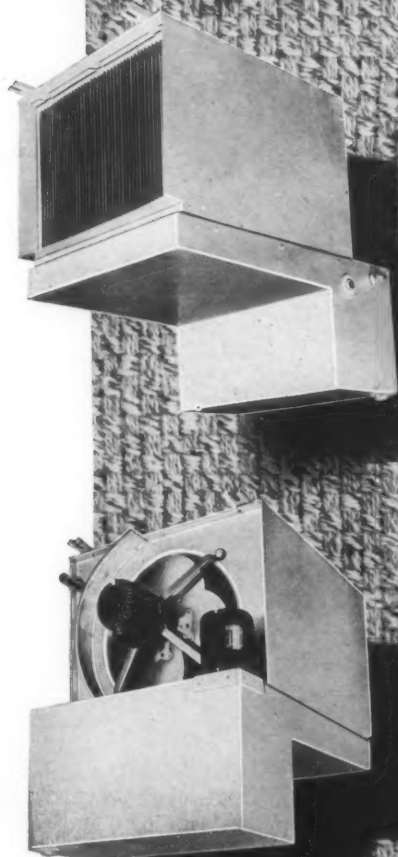
*by* **KRAMER**

**Opens Many Opportunities  
in the Small Tonnage Field**  
*Featuring . . .*

- Small Capacities—2 to 8 tons
- Single or Multi-Circuits
- Stainless Steel Sump
- Extra Large Water Delivery
- Packless & Greaseless Pump
- Bare Tube Coils
- No Nozzles
- No Belts
- Low Cost
- For Freon, Methyl and Ammonia

WRITE FOR BULLETIN R162B

**KRAMER TRENTON CO.**  
*Trenton 5, N. J.*



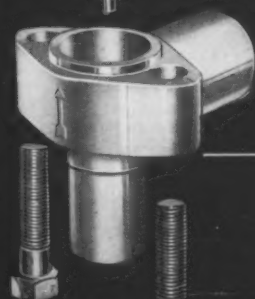
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IT'S EASY TO REMOVE THE CAGE



Designers and Manufacturers  
of Thermostatic Expansion  
Valves; Evaporator Pressure  
Regulators; Solenoid Valves;  
Float Valves; Float Switches.

SEE YOUR ALCO WHOLESALE



## "T" SERIES THERMO VALVES

### Simple "Come-Apart" Construction

#### 1. POWER ELEMENT

Automatic-hydrogen welded for maximum life.

#### 2. MINIMUM MOVING PARTS

Assures fast valve action.

#### 3. AVOIDS COSTLY VALVE CHANGES

Capacity can be varied by changing the cage. No separate pins or seats.

#### 4. INTERNAL PARTS

Corrosion resistant, brass and stainless steel.

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Valves can be cleaned and parts replaced without breaking line connections.

**ALCO** has Refrigeration under Control

# ALCO VALVE CO.

843 KINGSLAND AVE. • ST. LOUIS 5, MO.

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# EXPLOSION-PROOF TEMPRITE WATER COOLERS

open  
new markets  
for **TEMPRITE**  
Distributors...

TEMPRITE'S complete line of 10 drinking water coolers now includes an explosion-proof unit which may be installed and operated with complete safety in dangerous, combustible atmospheres. The refrigeration compressor is hermetically sealed and all electrical apparatus and connections are enclosed within Underwriters'-approved, explosion-proof housings. A water cooled condenser is used to obtain the large cooling capacity required for industrial applications and high ambient temperatures.

Sturdy, all stainless steel cabinet panels can be supplied as optional equipment. Temprite's unusually attractive stainless steel top is standard.

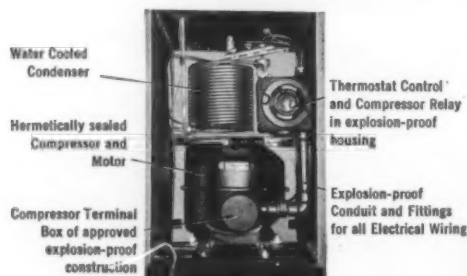
An optional foot pedal attachment operates in combination with a fingertip action water flow control button. Capacity is 10.3 gallons per hour.



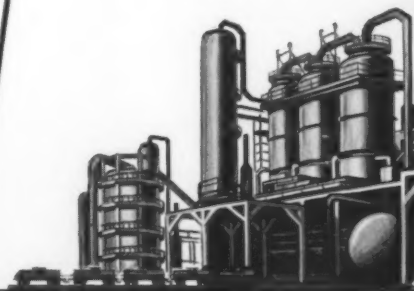
COMPLIES WITH all requirements of the National Electrical Code. Meets all Bureau of Standards requirements and all local and sanitary health codes.

**WE HAVE ALWAYS** gone along with the axiom that the more you have to offer, the more you will sell. That is why Temprite is forging ahead with the production of new models for new applications... incorporating new sales features, improving, expanding, and offering distributor salesmen every possible cooperation and sales advantage.

**VALUABLE TEMPRITE FRANCHISES** are still available, but we urge you to get in touch with us soon, so that arrangements can be completed for an early start in 1950!



in...  
chemical plants  
refineries  
paint plants  
grain processing plants  
collieries  
textile mills  
wood-working plants  
etc., etc.



## TEMPRITE PRODUCTS CORP.

41 Piquette  
Detroit 2, Michigan

- ☐ Have your representative call to discuss possible franchise arrangements.
- ☐ Send me descriptive material covering your explosion proof model ☐  
your complete water cooler line ☐
- ☐ I am a distributor ☐ I am a service engineer
- ☐ I am \_\_\_\_\_

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

COMPANY \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

"Be right... sell Temprite"

# Temprite

PRODUCTS CORPORATION

41 PIQUETTE • DETROIT 2, MICH.



FEBRUARY, 1950

VOLUME 7, NO. 2

# Commercial Refrigeration

AND AIR CONDITIONING

Established 1944 as  
THE REFRIGERATION INDUSTRY

THIS MAGAZINE has no  
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LOS ANGELES 14  
FRED W. FRISENFELDT  
1250 Wilshire Boulevard  
Room 403  
Tucker 4703

THE COVER . . . This combination oven-refrigerator is used to test the strength of Micarta plastic used in making engine gears and aircraft parts. Temperatures in the unit can be varied from 50 degrees below zero to 200 degrees above. (Westinghouse photo).

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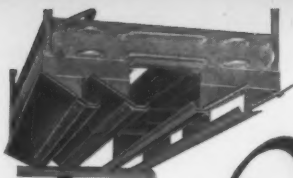
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### BUSH PLASTI-COOLER

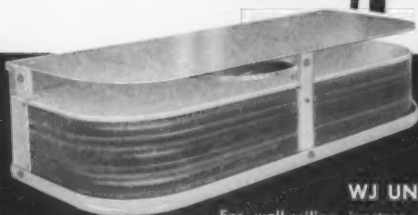
Plastic baffles eliminate sweating, produce maximum circulation.



## ENGINEERS

for Hotel Saxony  
Miami Beach, Fla.

# Specify Bush



### WJ UNIT

For wall-ceiling juncture installation. Distribution 180°.

### BUSH UNITS INSTALLED IN NEW LUXURY HOTEL

All fourteen walk-in refrigerators of the new \$6,000,000 Hotel Saxony are equipped with super-efficient BUSH CJ Units. The engineers of this last word in hotel luxury investigated thoroughly, tested carefully, and made their choice without the slightest compromise with quality. Their selection of BUSH Units is a tribute of which we are tremendously proud. See this and other BUSH refrigeration and air conditioning products at leading wholesalers everywhere . . . or write for the 1950 BUSH Catalog.



## BUSH MANUFACTURING COMPANY

WEST HARTFORD 10, CONNECTICUT



*Buy the Best-and the Best is Bush*

# KEROTEST

GIVES YOU  
**ANOTHER  
MONEY-MAKER.**

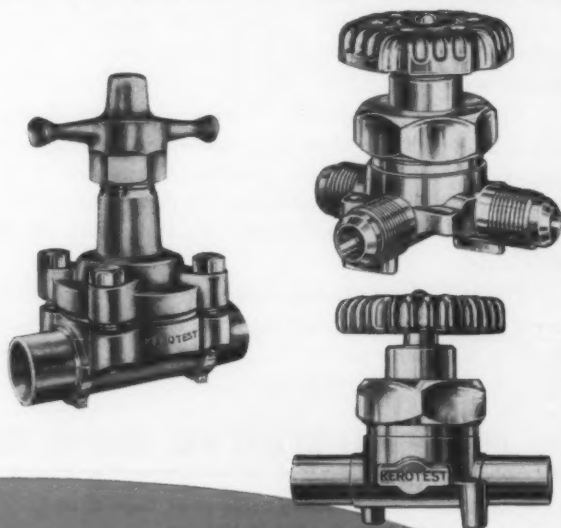


## KEROTEST'S NEW **DRI-ZIT DRYER**

### READ THESE FEATURES

- More drying agent at the same or lower price!
- Only 6 models fit everywhere!
- All ratings from 1/4 HP to 2 HP!
- Standard dimensions that fit everywhere!
- UL approved!

QUALIFIES WITH  
100 PIECE PURCHASES!



Again in '50  
**KEROTEST HAS THE PRODUCTS**

**KEROTEST MANUFACTURING COMPANY, PITTSBURGH 22, PENNSYLVANIA**

OFFICES AND WAREHOUSES: New York City Chicago Los Angeles San Francisco Houston Dallas Tulsa  
Odessa, Texas Richmond Atlanta Toledo St. Louis Charleston, W. Va.

# IT'S NEW! IT'S NEEDED!

**DOREX**  
FOOD SAVER



**FOR WALK-IN  
AND REACH-IN COOLERS**

RETAILS  
FOR  
**\$49<sup>50</sup>**

**Saves Food, Time, Money**—The Dorex Food Saver puts activated carbon—the best air purifier known—to work keeping refrigerator air sweet and fresh, constantly circulated. It prevents flavor transference between foods, eliminates "cold spots" in the cooler.

Users of Dorex Food Saver now store meats, fish, vegetables, fruits and dairy products—even partially processed foods—in the same cooler without danger of odor contamination. Dorex Food Saver saves many dollars in meat trim losses and other food spoilage... in cleanup expense and time lost in "sweetening" refrigerators. Builds good will by assuring flavor-fresh foods.

**Needed Everywhere**—There are millions of owners of walk-in and reach-in coolers. Every one of them—food stores, meat markets, restaurants, hotels, hospitals, dairies and others—can use Dorex Food Saver to advantage. Remember, the Dorex Food Saver is new. It's a wanted item. It's really efficient. And the price is right.

**Dealers, Distributors—Get in Early**—You'll like our dealer plan. It gives you real promotional backing and enables you to get a *continuing income* from every Dorex Food Saver sale. Send for full information today.

## GET THE FULL STORY! MAIL COUPON TODAY!

W. B. Connor Engineering Corporation, Dept. C-20,  
114 East 32nd Street, New York 16, New York

- ☐ We are interested in Dorex Food Saver for our own use.  
☐ We want to know your dealer story.

Please rush full information to.....

Company.....

Address:.....

## USERS SAY:

*"It's Great!"*

"...now able to store carry-over produce without ill effect..."

*Retail Market*

"No longer do we have to worry about one product picking up the odors of another..."

*Hotel*

"...have been astonished by the change in atmosphere and aroma your Dorex Food Saver has brought about."

*Baking Company*

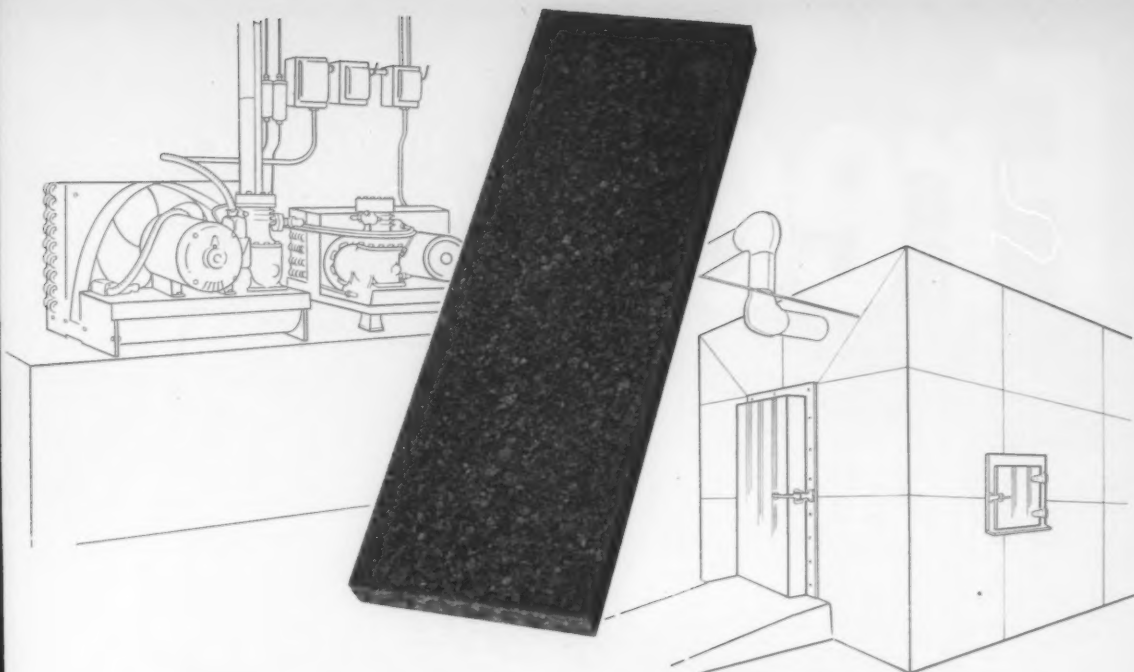
"The fruit retained an excellent appearance, with firmness and all-around good quality... was in much superior condition than that kept in storages without air purification units."

*Fruit Grower*

**W. B. CONNOR ENGINEERING CORP.**  
114 East 32nd Street, New York 16, New York

IN CANADA:

Douglas Engineering Corporation, Ltd.  
190 Murray Street, Montreal 3, P. Q.



## HOW IMPORTANT IS THE INSULATION?

It's easy to underestimate the importance of the insulation to your cold room jobs. After that insulation has been put in, it's usually covered up and forgotten. Everybody expects it to give years of trouble-free service—and a good insulating material will do just that.

However, some insulations fall short of this expectation. They get water-soaked, settle and pack down, or fail in some other way, and heat pours through. Then the compressor you have sold works overtime, wears out faster, and runs up the customer's service and electric bills. A poor insulation can make the best mechanical cooling system look pretty inefficient—make your customers unhappy with the whole job.

The next time insulation is part of your contract, sell and install Armstrong's Corkboard. You have a strong quality story to tell with this material. Corkboard's low ther-

mal conductivity, combined with its other desirable characteristics, makes it a most efficient and practical insulation for all your jobs. Corkboard is fast and easy to install. It is strong—portland cement plaster or asphalt emulsion finishes can be troweled directly to cork surfaces. It has exceptionally high moisture resistance—won't settle, shrink, swell, or warp—is fire resistant—light in weight—will not harbor vermin.

Besides Armstrong's Standard Corkboard, there are two other types available for special service conditions. These are Super-Service Corkboard (coated with asphalt on both sides), and Mastic Finish Corkboard ( $\frac{1}{8}$ " asphalt mastic finish on one side).

For more sales information on Armstrong's Corkboard, call the Armstrong office nearest you today or write directly to Armstrong Cork Co., 5302 Concord St., Lancaster, Pa.

## ARMSTRONG'S INDUSTRIAL INSULATIONS

M A T E R I A L S



I N S T A L L A T I O N

F O R A L L T E M P E R A T U R E S F R O M 3 0 0 ° F . B E L O W Z E R O T O 2 8 0 0 ° F .



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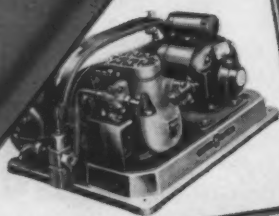
TO REFRIGERATION DEALERS  
AND SERVICE ENGINEERS

## quick selection of G-E Condensing Units

*plus*

HOW TO MAKE A COMPLETE  
REFRIGERATION SURVEY

GENERAL ELECTRIC  
Commercial Refrigeration



**36 PAGES**

**CONVENIENT**

New Pocket-Sized Manual!

Helps You Sell Condensing Units Faster and Easier!

**AT LAST!** A bright new sales tool to make condensing unit selection for commercial refrigeration applications a *simple, quick* job. You can't afford to be without it, because it cuts selection time and makes it possible to quote a price without engineering every job that comes up.

In a matter of seconds you can figure requirements, select equipment, and quote a price for a wide variety of commercial applications. This book has the short cuts. Best of all, it's free for the asking for dealers and service engineers. Use the quick selection tables to pick equipment for all kinds of display cases,

dairy refrigerators, vegetable cases, storage cabinets, and walk-in coolers. Use these tables to select condensing units for use with forced air cooling units or finned coils.

**DETAILED METHOD, TOO.** For more complex refrigeration jobs, the booklet contains a complete detailed selection method. Here you'll find tips on making a refrigeration survey, and information on required capacity, condensing units, refrigerant lines, unheated locations, and controls. It carries you through every step of detailed equipment selection. And there's valuable data on storage temperature and humidity.

## PARTIAL CONTENTS:

- ★ When to use Quick Selection.
- ★ When to use Detailed Selection.
- ★ How to use Quick Selection Tables—plus simple examples.
- ★ 12 easy-to-use Quick Selection Tables.

- ★ Tips on making a complete survey.
- ★ Condensing unit tips.
- ★ Refrigerant line tips.
- ★ Data on unheated locations.
- ★ Complete step-by-step detailed method of selection.
- ★ Data on storage temperature and humidity.

### DISPLAY CASE TABLE

### STORAGE REFRIGERATOR TABLE

### DETAILED SELECTION

**Pocket-size.** This book is designed to carry along when you call on prospects. It's 5½" x 7". All tables are laid out for quick, easy reference.

**Easy to use.** This booklet makes it possible for even non-technical personnel to select refrigeration equipment. Tables are simple to use, instructions are clear and concise.

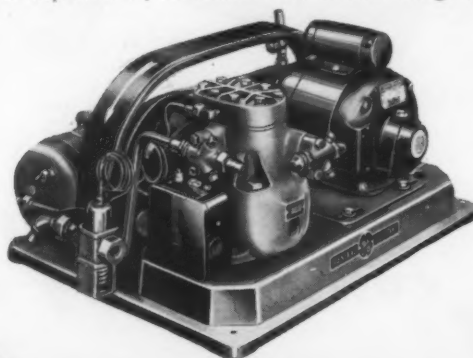
**Faster selection.** You use only one Quick Selection Table for each job. With only a few obvious facts you can pick required refrigeration capacity and the correct condensing unit model in a matter of seconds.

**DON'T FORGET** the profits you can make selling top-quality G-E Condensing Units and replacement parts. For condensed catalogs on units and parts, see your local G-E wholesaler-replacement parts depot.



## condensing units

for dependable, economical commercial refrigeration



# GENERAL ELECTRIC

**Send for  
your free copy  
Today!**

GENERAL ELECTRIC COMPANY, Air Conditioning Department,  
Section CR-4 Bloomfield, New Jersey

I am a ☐ service engineer ☐ dealer

Please send "Quick Selection of G-E Condensing Units." It is understood that I am under absolutely no obligation.

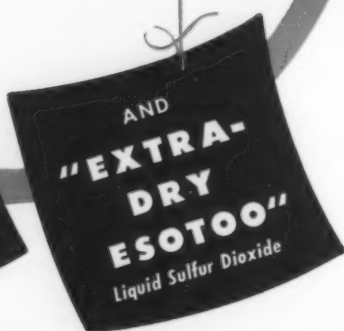
NAME.....

COMPANY.....

ADDRESS.....

CITY.....ZONE.....STATE.....

# VIRGINIA MAKES FINE REFRIGERANTS



***THEY'RE***  
**consistently pure**  
**consistently sure**

50 YEARS OF SERVICE TO INDUSTRY



**VIRGINIA** *Refrigerants*

West Norfolk • New York • Boston • Detroit

**VIRGINIA SMELTING COMPANY, WEST NORFOLK, VA.**

*Distributors for Kinetic's "Freon" Refrigerants*

AVAILABLE FROM WHOLESALERS COAST TO COAST

## LETTERS

### Who Makes Circulating Pumps For Milk Coolers?

EDITOR:

Give me information as to who builds a small circulating pump or agitator for water circulation in milk cooling cabinets —4, 6 & 8 can coolers.—I. L. Shuemaker, Sentinel Mfg. Co., 904-6-10 Commercial Ave., Cairo, Ill.

Following is a list of concerns who we believe may be making pumps of the type that can be used in milk cooler applications: Jabsco Pump Co., N. Lincoln & Empire Blvd., Burbank, Calif., Aurora Pump Co., 4610 Loucks St., Aurora, Ill., Crane Co., 836 S. Michigan Ave., Chicago, Ill., Dean Bros. Pumps, Inc., 325 W. 10th St., Indianapolis, Ind., Eastern Industries, Inc., 48 For Street, New Haven, Conn., Chicago Pump Co., 2346 Wolfram St., Chicago, Ill., Peerless Pump Div., Inc., 307 York St., Quincy, Ill., Gould Pumps, Inc., 75 Fall St., Seneca Falls, N. Y., The Deming Co., 42 Broadway, Salem, Ohio, Economy Pumps, Inc., Weller & Zimmerman Sts., Hamilton, Ohio.

### Metal-Clad Plywood Coolers Attract Reader's Interest

EDITOR:

Please furnish us with the address of the United States Plywood Corp., manufacturers of the Armormply sectional walk-in coolers mentioned in an article appearing in your October issue.—T. E. Kirk, Lawton Huffman Co., Marshalls Creek, Pa.

United States Plywood Corp. is located in the Weldwood Bldg., 55 West 44th St., New York 18, N. Y.

### Wants Information On Heat Pumps

EDITOR:

Will you please send me names and addresses of firms manufacturing reverse cycle pumps for heating and air conditioning. Have inquiries about this type installation and wish information on them.—R. E. Pancoast, Sycamore, Ohio.

To the best of our knowledge the only firms now producing such units in any appreciable quantities are: Webber Engineering Corp., Board of Trade Bldg., Indianapolis, Ind.; Muncie Gear Works, Muncie, Ind.;

Drayer-Hanson, Inc., 3301 Medford St., Los Angeles 33, Calif.

Each of these three systems was rather completely described in a series of articles on heat pumps which we published in our magazine about a year ago. The article on Webber's Terra Therm system appeared in our December 1948 issue; the article on Muncie Gear's Marvair system appeared in our November 1948 issue; and the article on Drayer-Hanson's Airtopia system was published in our January 1949 issue. Copies of these three issues are available at our regular rate of 30c each.

#### Dehumidifying Equipment Makers Are Listed

##### EDITOR:

Please advise who manufactures dehumidifying equipment.—George E. Close, Schumacher Refrigeration Co., Stamford, Conn.

Some of the manufacturers of dehumidifying equipment are:

Bryant Heater Co., Cleveland 10, Ohio; Carbide & Carbon Chemicals Corp., New York 17, N. Y.; Carrier Corp., Syracuse 1, N. Y.; Condenser Service & Engineering Co., Inc., Hoboken, N. J.; Metrix Chemical Co., Chicago 11, Ill.; Pittsburgh Lectrodryer Corp., Pittsburgh 30, Pa.; J. F. Pritchard & Co., Kansas City 6, Mo.—Editor.

#### Flake Ice Machines Sought By Reader

##### EDITOR:

I have a prospect for an ice machine to make about 5 tons per day in flake form. I do not know the address of the companies that make this type of equipment so thought possibly you could give me some addresses. I found a pamphlet on a machine called the Belt Ice Maker which seems to be what we need. If you have a listing of such companies, please send them to me.—T. D. Burgess, Burgess Appliance Co., Nacogdoches, Tex.

We list below several manufacturers of continuous ice makers. All these companies, we understand, produce equipment that either delivers the ice in shaved form or have crusher attachments to provide this service. Liquid Freeze Corp., Oakland 7, Calif.; Belt-Ice Corp., 2845 16th Ave., W., Seattle 99, Wash.; Ice-Flo Corp., Mill St., Lonsdale, R. I.; York Corp., York, Pa.; The Harley Corp., 249 E. 5th Ave., Columbus 1, Ohio; Carrier Corp., Syracuse, N. Y.



IT'S ALWAYS AN OPEN AND SHUT CASE WHERE

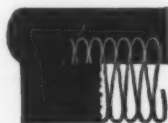
**Bridgeport**  
INNER-SEAL

IS INVOLVED

Preferred by the leaders\* of every field where weatherstripping is vital

When the issue involves the positive exclusion of dust, dirt, dampness, heat or cold, there can be but one decision—Bridgeport Inner-seal Weatherstripping. For protecting vital equipment on locomotives, maintaining optimum hold conditions on refrigerated ships or sealing passenger comfort into planes, busses and railroad cars, Bridgeport Inner-seal has no equal. Its unique design and rugged construction make it easier to install, positive in sealing and extremely long lived, even when exposed to the toughest treatment. Consisting of a live sponge rubber bead molded for life onto a flexible flange woven of spring steel wire and strong cotton thread, Inner-seal can be fitted, by any careful workman, into tight corners or around compound curves to provide a perfect seal. Standard Inner-seal is latex-dipped, but for installations exposed to the ravages of oil, grease, sunlight, salt water or extreme temperature variations, it may be coated with durable neoprene.

\*We'll gladly furnish names on request.



Inner-seal is manufactured in many standard sizes and colors for immediate delivery, or may be designed to meet unusual applications. Write for samples and data sheet with complete details.

Tough Spring Steel Wire Molded Into Live Sponge Rubber  
Cable Address: DAVTEXCOE, New York

**Bridgeport**  
FABRICS, INC.

Export Address  
75 West St.  
New York N.Y.

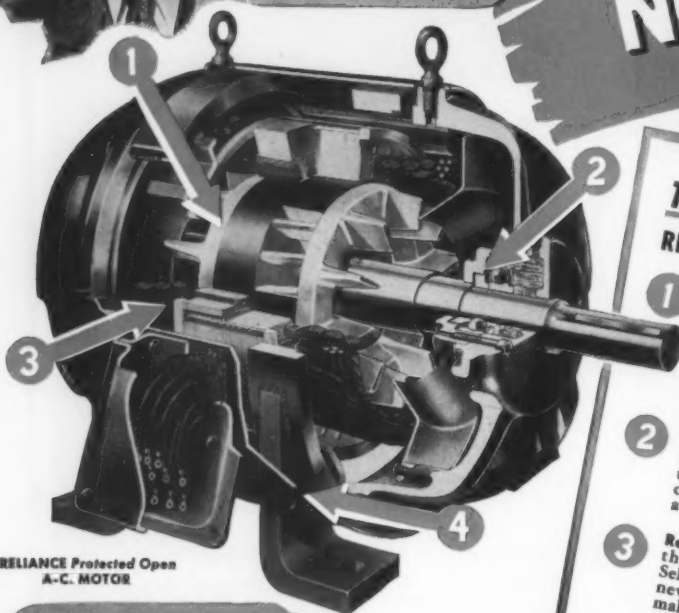
BRIDGEPORT 1, CONN.  
Est. 1837





WHY HASN'T  
SOMEBODY TOLD ME  
THIS BEFORE?

"...all motors are  
**NOT ALIKE**"



RELIANCE Protected Open  
A-C MOTOR

**RELIANCE**  
*Precision-Built*  
**MOTORS**

**These 4 Advantages Alone make  
RELIANCE the motor that is different!**

- 1** **Dynamic Balancing—Precision Fits—**Every motor is dynamically balanced by skilled technicians using latest electronic-precision equipment. Machining of parts to exacting tolerances guarantees precision throughout. Result: a smoother-running, longer-lasting motor!
- 2** **No Lubrication Worries—Precision Bearing Mounting,** with double-shielded ball bearings, assures longer bearing life under all normal conditions, whether overgreased, undergreased or not greased at all. "You can't grease 'em wrong!"
- 3** **Reli-X Insulation** furnishes a new high in the protection of stator windings. Selected materials, exclusive methods and new continuous-sequence applications make this the *unfailing* insulation!
- 4** **Steel for Strength—**Steel construction, with electrically welded joints, combines maximum strength with minimum weight.

...are made **better** to deliver  
**DEPENDABLE POWER—LONGER!**

Reliance has a way of building motors that must be seen to be fully appreciated. Any time we can take a motor user through the modern plants where Reliance *Precision-Built* Motors are made, we can be reasonably sure of another good Reliance customer. We would be delighted to have you make this visit. But if it isn't practical, call in your nearest Reliance representative and *see* the convincing facts he can show you on the precision methods that produce these truly superior motors. Now available from ¾ to 300 horsepower.

**HOW TO  
SELECT THE  
RIGHT MOTOR**

Here's a book which digests all the information you should have in selecting the motor that's just right for any job. New torque and current standards recently adopted by the National Electrical Manufacturers Association for A-C motors are tabulated and explained. And these are further supplemented by more detailed performance data on Reliance *Precision-Built* Motors. Write today for this important new Motor Data Bulletin, B-2101.



Sales Representatives in Principal Cities

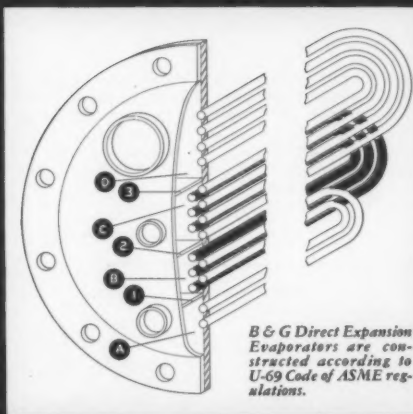
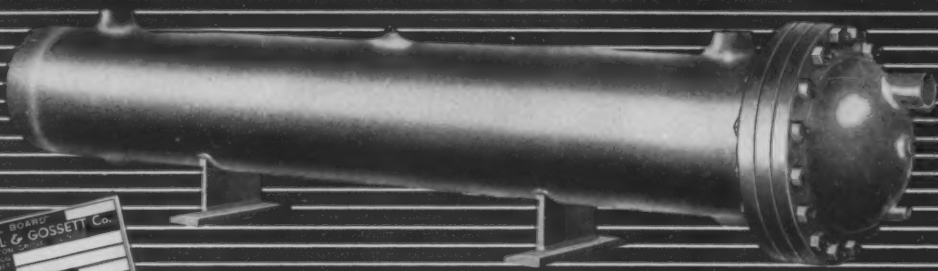
**RELIANCE ELECTRIC AND  
ENGINEERING CO.**

"Motor-Drive is More Than Power" • 1113 Ivanhoe Road, Cleveland 10, Ohio



# Oil Traps Eliminated

## BY NEW EVAPORATOR DESIGN



The unique design of the B & G Series "HR" Evaporator assures uninterrupted flow of vapor and oil—a warranty of more efficient and dependable performance.

A certain amount of compressor crankcase oil is picked up by the refrigerant during compression. If oil is continuously trapped in the evaporator, the oil in the compressor crankcase becomes depleted, which may cause bearing trouble. If the condition is not corrected, the system eventually becomes useless, for excessive oil in the evaporator reduces heat transfer.

The diagram at left shows how this trouble is prevented in the B & G Evaporator. Note that the lower tube in pass "B" leading to pass "C", and the lower tube in pass "C" leading to pass "D", is located very close to the baffle plate, permitting any oil entering passes to travel freely with the Freon vapor back to compressor. *There is no step-up or sump to trap oil!*



**SEE HOW B & G HYDRO-FLO PRODUCTS ARE MADE**  
You are cordially invited to visit the B & G plant—see the modern manufacturing methods which are making B & G Hydro-Flo Products known everywhere for the superior quality of their performance.

### SEND FOR NEW CATALOGS

For complete engineering data on B & G Evaporators and Condensers write today for Catalogs BJ-848 and BK-948.



**Hydro-Flo\***  
**REFRIGERATION**  
**EQUIPMENT**

**BELL & GOSSETT COMPANY**  
Dept. RBJ-45, Morton Grove, Ill.

\*Reg. U. S. Pat. Off.

and AIR CONDITIONING • FEBRUARY, 1950

**WAGNER  
MOTORS**  
*...The choice of leaders  
in industry*

# Here's what you get in the **WAGNER Type RA MOTOR...** the most simplified design to provide—

## repulsion start

**HIGH STARTING  
TORQUE** ... for quick,  
easy starting and smooth  
acceleration.

**LOW STARTING  
CURRENT** ... to mini-  
mize light flicker when  
motor starts.



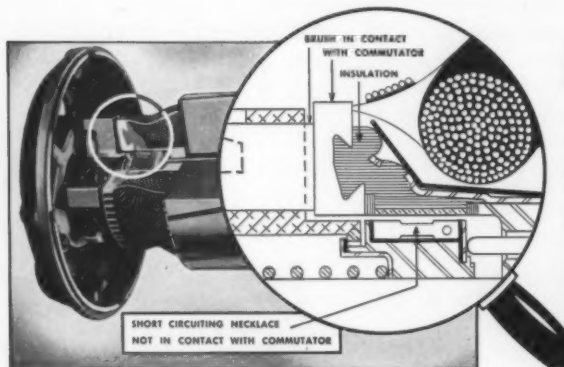
## induction run

**HIGH OPERATING  
SPEED** ... constant at  
all operating loads, even  
under overload.

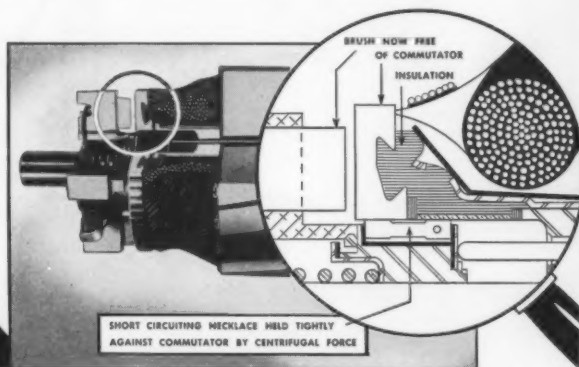
**FLAT EFFICIENCY  
CURVE** ... over a wide  
operating range.

Pioneered by Wagner more than half a century ago, the repulsion-start induction single phase motor is truly industry's "general purpose" motor because it combines the best features of two types of motors: the repulsion motor during the starting period and the induction motor while running at rated operating speeds. Today, the Wagner Type RA offers the most simplified, trouble-

free design available, and is still the standard by which all other single phase motors are judged. In the Wagner Type RA Motor you get low upkeep cost, minimum servicing, freedom from vibration and noise, and years of reliable service. Shown below are the basic principles of operation of this motor. Bulletin MU-185 gives complete details. Write for a copy.



**Starting period**—Short-circuiting necklace is not in contact with commutator bars. A governor spring holds barrel in starting position. Brush assembly completes selected circuits enabling motor to start as a repulsion motor.



**Running period**—Governor weights (actuating pushrods) have forced spring barrel forward until short-circuiting necklace connects commutator bars to short-circuiting ring, forming a "squirrel cage" to permit operation as an induction motor.



**WAGNER ELECTRIC CORPORATION**  
6442 Plymouth Ave., St. Louis 14, Mo., U.S.A.

ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES  
AUTOMOTIVE BRAKE SYSTEMS — AIR AND HYDRAULIC

BRANCHES IN 29 PRINCIPAL CITIES

**BRUNNER**  
SINCE 1906

## AIR CONDITIONING builds business

### WHAT'S KEEPING YOU AWAY

*from Air Conditioner Profits?*

**PRODUCT**

Brunner self contained floor type room air conditioners are available in 4 popular sizes—3, 5, 7½ and 10 ton. Completely Brunner built...backed by 44 years of engineering "know how." By every standard of comparison an outstanding product worthy of your confidence.

**INVOLVEMENT**

Packaged air conditioning is simple to sell, install and service. No involved technical knowledge is required. Recommendations are determined through a few easily figured facts. Packaged air conditioning is a natural part of any refrigeration and appliance business.

**SALES HELP**

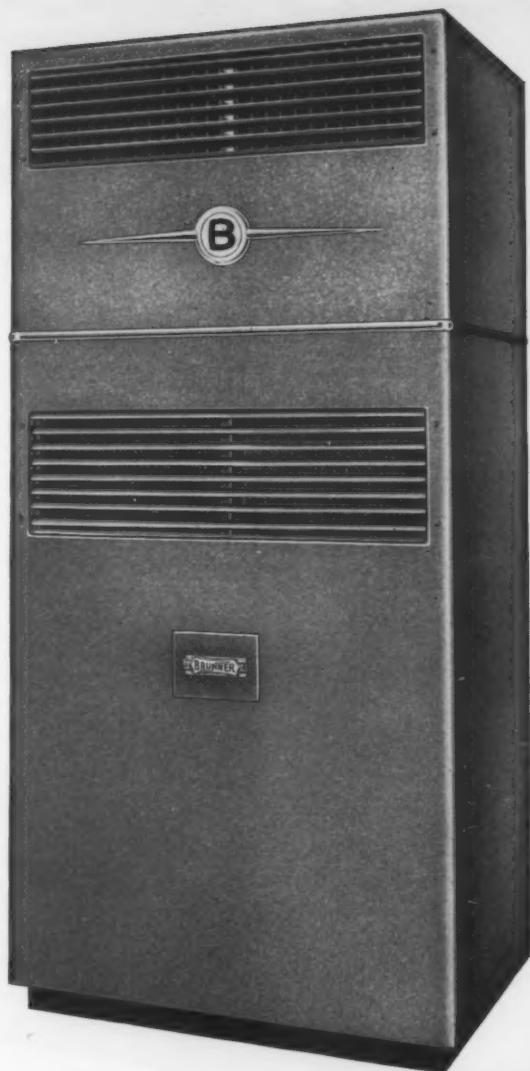
Brunner field-sales engineers are so located across the country as to be readily available to help on every occasion when called upon. Brunner advertising to "users" in many fields has paved the way to recognition and acceptance of Brunner as the top value in air conditioning.

**MARKETS**

All around you! Practically every business depending upon store traffic, wants and needs air conditioning. The opportunities are legion. The Brunner field man will show you how to contact and close sales.

**PROFIT**

Brunner Air Conditioning builds business...yours and your customer's. Don't let this extra income pass you by. Write or wire for a Brunner representative to spread the facts before you. You can't miss recognizing the superiority of Brunner Air Conditioners as a product and as a *new business opportunity.*



**BRUNNER**  
SINCE 1906

## AIR CONDITIONING

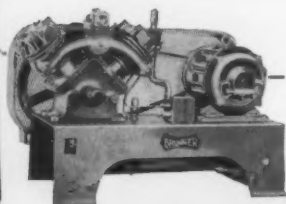
- Self Contained 3 HP. to 10 HP.
- Remote Type 5 HP. to 75 HP.

BRUNNER MANUFACTURING CO., Utica 1, New York, U.S.A.

REFRIGERATION CONDENSING UNITS by

AIR AND WATER COOLED MODELS—a size and type for every purpose...¼ HP. TO 75 HP.

**BRUNNER**  
SINCE 1906



# ESTON

*Covers the Country!*

THERE IS AN ESTON REPRESENTATIVE  
AND WAREHOUSE NEAR YOU



**METHYL CHLORIDE  
SULPHUR DIOXIDE  
"FREON-11-12-22-114"**

Your orders can be filled  
immediately for any  
refrigerant requirement.



*Remember*  
**Charg-A-Can**  
PACKAGED REFRIGERANT  
NO CYLINDERS—NO DEPOSIT

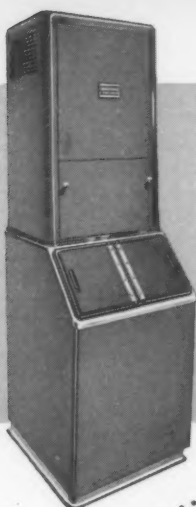


CALL YOUR LOCAL  
ESTON WHOLESALER

**ESTON CHEMICALS, INC.**

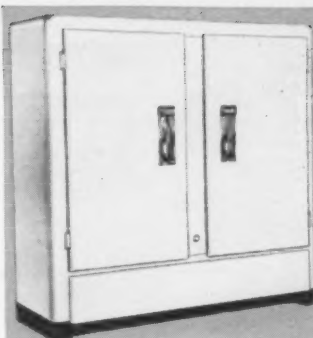
3100 E. 26th St., LOS ANGELES 23 • 4900 Madison St., CHICAGO 44 • 60 E. 42nd St., NEW YORK 17





#### NEW AUTOMATIC ICE CUBE MAKER

No other machine provides so many ice cubes at so low a price. A cold mine in 4 sq. ft. that's a gold mine to Carrier dealers. Makes 410 lbs. per day.



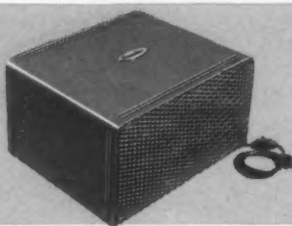
#### 15 AND 30 CU. FT. FOOD FREEZERS

The only practical freezer for commercial establishments. Carrier's upright design holds more food in less floor space and provides reach-in convenience to shelves.

**sell the refrigeration  
with the name that sells**

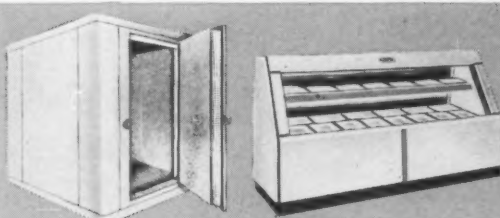
***Carrier***

**—a complete line for every purpose!**



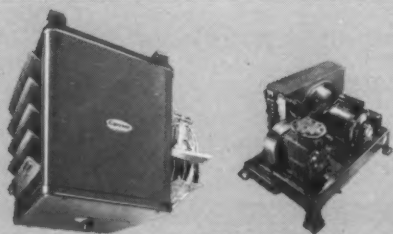
#### NEW HUMIDRY (Dehumidifier)

Removes 34 pints of water in 24 hours from enclosed areas. Offers dealers profits plus in a large, ready-made market wherever there's dampness, rust or mildew.



#### WALK-IN REFRIGERATORS AND DISPLAY CASES

A complete line of refrigerated fixtures for every commercial need . . . all with rugged construction, modern styling, and special features that make them easy to sell.



#### CONDENSING UNITS AND COLD DIFFUSERS

Designed to team together to produce the most efficient cooling at the lowest cost of operation in hundreds of different applications.

**CARRIER CORPORATION**  
302 S. Geddes St., Syracuse 1, N. Y.

Please send me, without obligation, information on the Carrier Commercial Refrigeration line.

I am interested in becoming a dealer.  
I am not

NAME \_\_\_\_\_

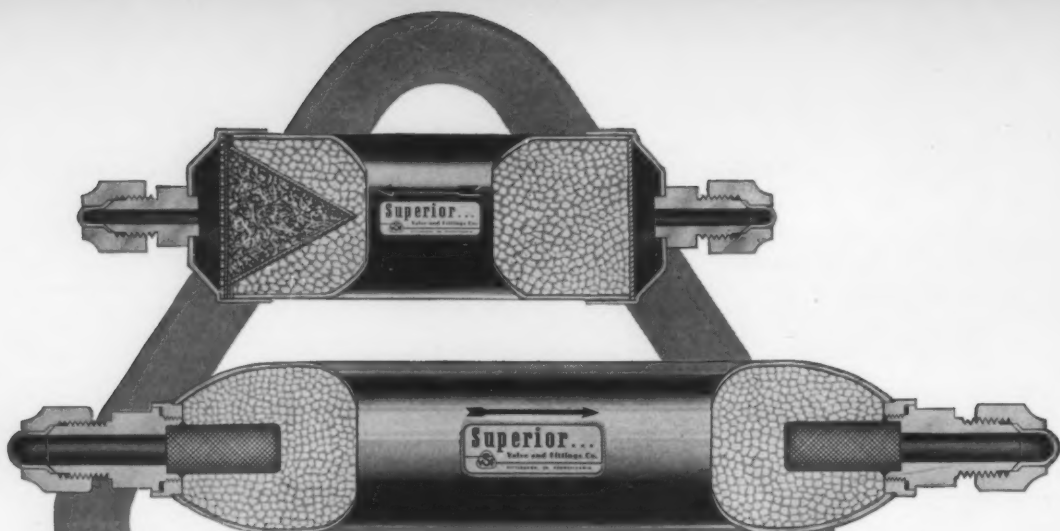
FIRM NAME \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_





*A NEW Line of*

## **SUPERIOR DRIERS**

The DRIERS with the *Plus Features*

- ★ MODERN DESIGN
- ★ EFFICIENT OPERATION
- ★ REFILLABLE AND NON-REFILLABLE TYPES
- ★ ALL BRASS CONSTRUCTION



For complete details and specifications on the New Driers and other Superior products, ask your Wholesaler for a copy of our NEW Catalog R3.

(or a copy may be obtained by writing to us)

159

**Superior** Valve and Fittings Co.



1509 WEST LIBERTY AVE., PITTSBURGH 26, PENNA.  
OFFICES IN PRINCIPAL CITIES · STOCKS CHICAGO (6) · LOS ANGELES (15) · JOBBERS EVERYWHERE



**MODEL 1407.** Self-service frozen food display case. Attracts and handles more buyers, invites more sales.



**MODEL 6710.** 10-ft. long open front case with extra wide display shelf. Ideal for produce display.

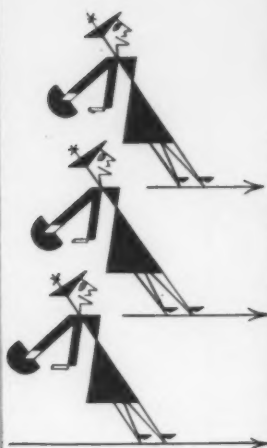


**MODEL 5710.** Open Front self-service case for pre-packaged fresh meats, produce, or dairy products.



**SERIES 100.** Double duty models 6 to 12 ft. long. Also top display models in 10 and 12 ft. lengths.

## SHOPPER STOPPER!



**KOCH**

**MODEL 306**

### THE HOTTEST THING IN COLD

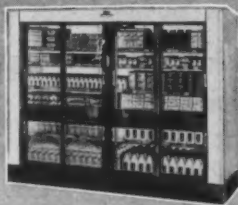
Here's a sure lure for smart food merchants . . . a case that will convince the most reluctant prospect he's missing a steady stream of profits. One look at the sleek triple-deck construction will show him a new three-lane route to bigger volume in impulse items . . . dairy products, delicatessen, and bottled beverages.

Each individually cooled shelf is easy to reach . . . easy to stock and clean. Each has its own fluorescent lighting, for added impact. No wonder this and the many other superb KOCH display cases and refrigerators are called *the line of least resistance*. Write today for complete information. Some territories are still open.

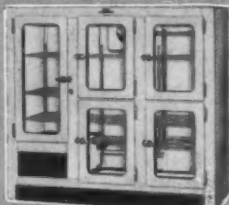
**KOCH**  
REFRIGERATORS

THE QUALITY REFRIGERATOR LINE SINCE 1883

NORTH KANSAS CITY 16, MO.



**MODEL 3508.** Wall Type Display Case. For self-service display of dairy products or beverages.



**MODEL 3865.** A 63-cu. ft. reach-in refrigerator. One of the six popular Koch reach-in cabinets.

KOCH REFRIGERATORS  
North Kansas City 16, Mo.

CR2

Please send me at once, without obligation, complete information on profit-making Koch Display Cases and Refrigerators.

Name

Address

City  Zone  State

SHE LOVES HER SMART NEW REFRIGERATOR . . .



## She'll love the year-in, year-out dependability of its TECUMSEH Hermetic unit

Yes, she finds it easy to love the smart new refrigerator that has just entered her home. She loves it for its beauty, for its modern up-to-the-minute conveniences, its *smooth, vibrationless operation*.

But the nice thing about it is that she'll love it more and more as the years go by. For, long after it has lost its "brand newness", she will be loving it for the faithful service it has given through the years—thanks to the precision-built Tecumseh Hermetic Unit with which it is equipped.

For Tecumseh Hermetic compressors are famous the world over for their long-lasting, trouble-free performance, their low

operating cost. Here are just a few of the many reasons for their superiority:

Large, oversize bearings; counterweighted crank-shafts; super-finished bearing parts ( $\pm .0001"$ ); Chieftainized connecting rods and pistons; simple and positive motor controls; leakproof motor terminals.

Many models include both fan-cooled and static condenser type units. In various combinations of compressors, motors and condensers, they cover the entire range of applications from  $\frac{1}{8}$  h.p. to  $\frac{3}{4}$  h.p.

Write for complete information.



**TECUMSEH PRODUCTS COMPANY**

TECUMSEH, MICHIGAN

EXPORT DEPARTMENT: 2111 WOODWARD AVE., DETROIT 1, MICH.

★ World's largest independent producer of compressors and condensing units for the refrigeration industry. ★

# 3 experienced servicemen say CUT JOB COSTS 3 WAYS WITH FRIGIDAIRE VALVES!

Frigidaire Refrigerant Control Valves insure swift installation—save valuable job-time. Their high quality construction reduces costly call-backs. And their remarkable adaptability means less money tied up in parts inventory.

Your nearby Frigidaire Parts Distributor can supply Frigidaire Refrigerant Control Valves for household, commercial and air conditioning applications. There's a Frigidaire Valve to meet every need!



## Likes easy installation!

"Compact, sturdy Frigidaire Valves are easy to install," says Albert Huber, Huber Refrigeration Service, Baltimore, Md. "They're second to none in performance and dependability."



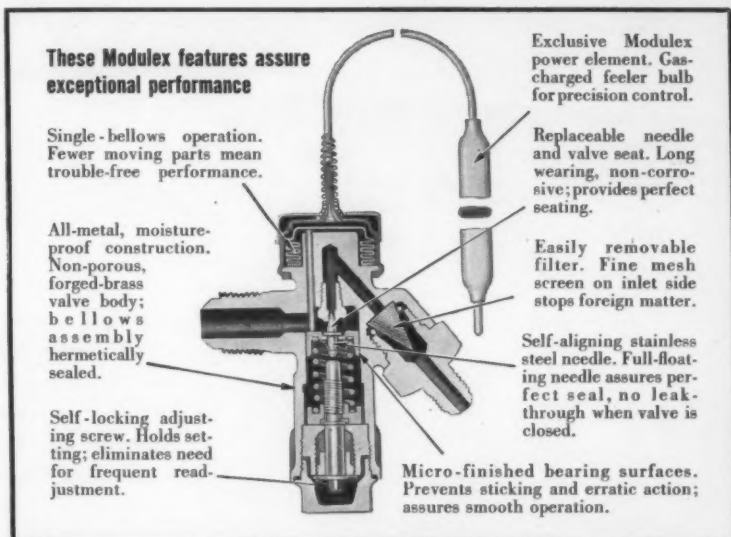
## No inventory headaches!

"Frigidaire Valves, Switches and other fast-moving parts are easily adapted to any type of equipment," says S. M. McKinney, Service Sales Company, Des Moines, Ia. "So by using Frigidaire Parts we avoid tying up a lot of our money in big stocks of parts—yet we can handle any jobs we are called on to do."



## Avoids costly call-backs!

"We prefer Frigidaire Expansion Valves because their high quality prevents costly call-backs, and because they are so readily adaptable to all kinds of equipment," says A. D. Ragsdale, Acme Stove & Electric Co., Kansas City, Mo.



## Frigidaire Modulex Expansion Valves Insure Accurate, Dependable Temperature Control

You'll like the precision control possible with Frigidaire's exclusive Modulex thermostatic bulb. This unique power element responds only to temperature changes at the bulb itself. Changes at valve body, or along the capillary tube, do not affect valve

operation. Tests prove the Frigidaire Modulex Valve continues to function perfectly even when valve body is completely frozen in a block of ice, or subjected to unusual heat conditions. These valves can be installed inside or out of the refrigerated space.

# FRIGIDAIRE

## Service Parts and Accessories



**FREE! Frigidaire Parts Catalog**  
For full information about all Frigidaire Service Parts and Accessories, write today for your free Frigidaire Parts Catalog.

**FRIGIDAIRE DIVISION**  
General Motors Corporation  
1422 Amelia Street, Dayton 1, Ohio. (In Canada, Leaside 12, Ont.)  
Please rush my free copy of your parts catalog—"Genuine Precision-Built Frigidaire Parts and Accessories."

Name.....  
Firm Name.....  
Address.....  
City..... County..... State.....

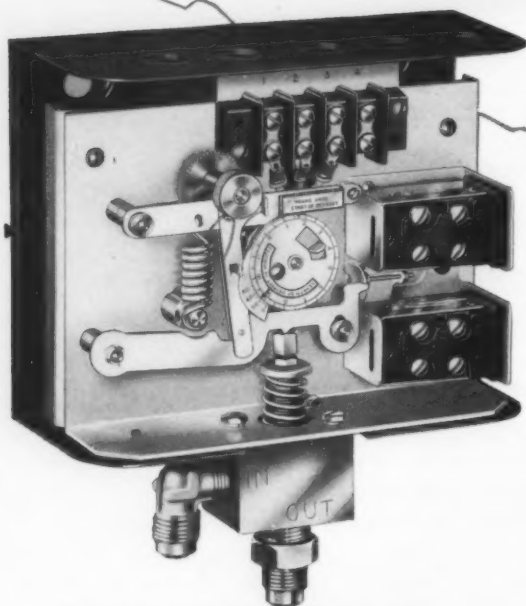
**memo:**

*Check with refrigeration service engineer*

*Automatic hot gas defrosting...*

*what's it all about...*

*how does it work?*



Interior of the single unit Series 321 showing synchronous motor timer, heavily spring-loaded valve seats, two-pole snap-acting contact structure and ease of wiring.

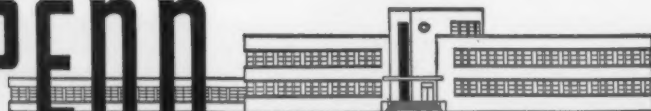


Defrosting with hot gases is *not* a new idea. It's old and thoroughly proved. *But*, here's the BIG NEWS . . . now PENN's Series 321 does it *automatically*! And evaporator coil defrosting is fast and positive. At specified intervals, hot gases are pumped directly from the compressor through the evaporator coil. Objectionable rise in product temperature is eliminated. Cost of installation and operation is low.

Yes . . . it's the big news in the refrigeration industry. Everybody is talking about it! Case manufacturers want it for new equipment. Service engineers want it because there's a big year 'round market for it. Users want it because it keeps refrigeration systems at peak efficiency . . . saves time . . . saves trouble . . . saves food . . . protects profits.

Investigate the Series 321 Hot Gas Defroster . . . it gives you new profit opportunities. It's easy to install on frozen food cabinets, meat cases, etc., either blast coil or gravity installations. Ask your wholesaler or write **Penn Electric Switch Co., Goshen, Ind.** Export Division: 13 E. 40th St., New York 16, U.S.A. In Canada: Penn Controls, Ltd., Toronto, Ont.

**PENN**



**AUTOMATIC CONTROLS**

**FOR HEATING, REFRIGERATION, AIR CONDITIONING, PUMPS, AIR COMPRESSORS, ENGINES, GAS RANGES**



# RTU

## News • Laws • Trends

### Super Service By A Super Market

**E**MPHASIZING the increasing importance of the home freezer trade is the service which was recently inaugurated by Loblaw Groceries, Inc., Buffalo, N. Y. super market organization. The retail chain, which operates seven super markets with self-service meat departments, prepares, cuts and packages meat for frozen storage according to the customer's particular requirements. This service entails no extra charge, the customer paying only the price prevailing on the day of purchase.

### Food For Congress Isn't Wasted

**N**O MATTER how much they may cuss them out from time to time, voters still like to send gifts to their congressmen, it seems. Members of Congress in Washington, D. C., frequently receive gifts of food—and since these gifts, in most cases, arrive without advance notice, the problem of storing them is a pretty important consideration.

It isn't often possible to work these food gifts into the immediate menu—even the chef doesn't know how many to plan for from day to day. And "meal planning" is tough, for the call for meals may be much heavier (in point of numbers) from one day to another. Naturally, large refrigerated storage space is provided in the House and Senate restaurants.

So, when grateful constituents send in some unannounced delicacy to their favorite Congressman, it goes into the refrigerator, for use when convenient. Extra care is taken to reduce spoilage—but, just in case you're figuring on sending your Senator a mess of fish, be sure you take care to see that it gets there in good condition and fit to eat. You'd be surprised how much good food is lost because it doesn't. And even a Congressman can't do anything about that.

### Navy Probes Ship Cooling

**R**EPORTS from Project X-205—a continuing study to determine the advisability of air conditioning U. S. Navy ships—indicate that effective temperature in berthing spaces should be kept below 78°F.E.T., and that mechanical cooling must be employed to achieve these conditions in the tropics.

This was only one of the many important conclusions reached in comparative aboard-ship studies. The chief

advantages derived from a relatively cool living atmosphere under conditions of tropical operation were sustained motivation and initiative, minimal odor in the berthing spaces, absence of heat rash, fewer skin infections, and ability to work efficiently.

Adequate rest due to absence of sweating during the resting state proved a major advantage on the mechanically cooled ships, where the men were alert on awakening. This was in definite contrast to the "transient stupor" observed in men on other ships with even the best mechanical ventilation.

### Low-Temp Research Wins Nobel Prize

**A**WARD of last year's Nobel Prize for Chemistry to Dr. William Francis Giauque, professor of physical chemistry at the University of California, provides further concrete evidence of the growing importance of low temperature as a tool to aid the study of molecular action and other properties of matter.

Dr. Giauque was honored for his contributions in the field of thermodynamics, particularly concerning relations between substances at extremely low temperatures. This award points up a trend which has been taking place in refrigeration research and application for many years, and which during and since the war years has seen temperatures approaching absolute zero (-459.7 F) become almost commonplace.

Today low temperature research laboratories are springing up in universities and research centers all over the country. When you consider that in less than 100 years the center of research activity in this field has dropped from the freezing point of water to the coldest temperature it is possible to reach, who can predict what refrigeration miracles the future may produce?

### Humidity and Health

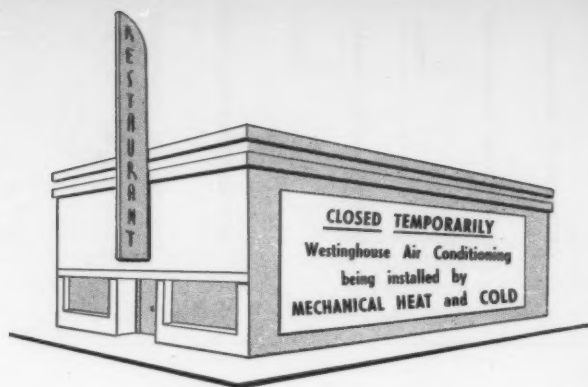
**E**XPERIMENTS by the Departments of Medicine and Biochemistry at the University of Chicago proved that a relative humidity of 45 to 55% at about 72F was almost immediately fatal to certain types of air-borne bacteria suspended in saliva droplets. It was also shown that these same bacteria were virtually unaffected at either low, or high relative humidities.

These facts were established by tests made with bacteria laden droplets suspended in air. The droplets were composed of human saliva having a normal salt content. At intermediate relative humidities (45-55%) a chemical environment was achieved in the droplet whereby the toxic action of the salt concentration immediately killed the bacteria.

At low relative humidities, dehydration takes place and apparently cell respiration is suspended so that the bacterial cell is not affected by the high concentration of the salt which remains. At high relative humidities, the water present so diluted the salt that the cell was again unaffected.

Although only three types of bacteria were tested, the way was pointed toward further research on the effects of relative humidity on the thousands of aerial microorganisms that daily cause infection and death among mankind.

Eye-catching signs like this on jobs being installed help both customer and contractor.



## Don't miss a chance . . .

. . . to get the name of your company and your products or services before the buying public. Here's how a Detroit cooling contractor capitalizes on every opportunity to promote its own business along with that of its customers.

**"DON'T** stop promoting a job when you start installing it!"

That succinct slogan is one of the cornerstones of the sales promotional efforts of Mechanical Heat & Cold, Inc., Detroit cooling and heating contracting firm. And Willard H. Sherman, the company's sales manager, has utilized this technique with such telling effect that the name of Mechanical Heat & Cold is fast becoming

familiar to thousands of Detroiters who otherwise might never be aware of the organization or its activities.

Thanks largely to Sherman, Mechanical Heat & Cold never goes to sleep on the job of "merchandising" any of its new installations which lend themselves to this type of treatment.

Take, for instance, the time that the firm installed a new air condi-

tioning system in Hund's restaurant in downtown Detroit.

Some time before this prominent dining spot was closed temporarily for the installation of the air conditioning equipment and for other alterations, the contracting firm had small table cards printed and placed on the tables before every customer. These cards read: "We will be closed beginning June 1 for the installation of Westinghouse Air Conditioning Equipment by Mechanical Heat & Cold—watch the papers for our reopening announcement."

At the same time, two large signs carrying a similar message were supplied by the air conditioning firm and erected on either side of the restaurant building, where they were seen by thousands of persons while the restaurant was closed.

To provide a complete follow-through on this promotion, Mechanical Heat & Cold also participated in the cost of reopening announcements in Detroit newspapers when the restaurant resumed operations. These ads too, of course, prominently feat-



Sherman (right) and T. H. Mabley, vice president, pore over a scrapbook filled with samples of the firm's promotional ideas.

ured the contracting firm's name and the type of equipment installed.

This type of advertising, Sherman is quick to point out, provides a definite service to the customer in addition to doing a real selling job for Mechanical Heat & Cold. When the owner of Hund's restaurant was approached on the idea of using the table cards, Sherman recalls, he said: "We were going to get them, but you go ahead if you want to—and be sure to put your name on them, too."

Hund, an experienced restaurateur, well knows the value of advertising, particularly the importance of keeping your name constantly before the public. Sharing this realization, Sherman does all he can to keep the name of Mechanical Heat & Cold continually before the eyes of the thousands of Detroiters who comprise his firm's prospective customers.

Another endeavor along this same line is the contracting firm's consistent use of small advertising space in Detroit's daily papers. These ads, all of the same general size and format,

*Another* **WESTINGHOUSE**  
**AIR-CONDITIONING SYSTEM**  
*Just Completed at the New*  
**HOWARD JOHNSON'S**  
**RESTAURANT**  
*Westward at Cadillac Hwy.*



Mechanical Heat & Cold Inc.  
 12310 HAMILTON AVE. DETROIT 3  
 PHONE TO 8-9600

Simple "reminder type" ads like this one constantly hammer home the fact that Mechanical Heat & Cold is continually installing Westinghouse air conditioning equipment in many of Detroit's better-known business establishments.

capitalize on the well-established effectiveness of repetition by simply stating, for example: "Another Westinghouse Air Conditioning System just completed at . . ."

Each of these ads is clearly identified by the Mechanical Heat & Cold name and insignia prominently displayed on a reverse band at the bottom of the ad.

"All of this repetitive promotion of the jobs which we install," Sherman explains, "is just a part of the old 'again, and again, and again' technique through which we hope to impress our name so indelibly on the minds of prospective purchasers that whenever they think of air conditioning they will automatically think of us."



Hollywood played second fiddle at Detroit's Century theater last summer when this neighborhood movie house turned over its entire marquee to the announcement of its new air conditioning system. The theater's management logically reasoned that their customers would be more interested in the new comfort which had been provided than in the name of the film which was playing.

## Cooling System Billed As "Feature Attraction"

**T**OP billing on a theater marquee was achieved by an air conditioning system last summer when the management of Detroit's Century Theatre utilized the entire marquee to announce the installation of its new cooling plant, relegating the featured Hollywood attraction to the sideboards.

A two-fold reason for this high-powered plug was outlined by E. R. Holtz, head of the firm which operates the theater, as follows:

"Part of the thinking which lay behind our promotion of our new cooling system was based on the weather conditions which existed early in July when the installation was completed. The weather was hot and humid, and I felt that the public would be as much interested in comfort as they would in the title of the current picture.

"Secondly, when you have something new it's always well to let the public know about it. In our case there was nothing better than our own marquee to advise our patrons that we had spent thousands of dollars to provide a new service for them.

"After using the display as shown in the photograph for a short period, we began to substitute our current attractions for the last line of the air conditioning plug. Then after another period of time the setup was changed to read 'Cooled by Refrigeration', and this line was left up for the duration of the hot spell, which lasted well into September."

The "featured" G-E air conditioning system, installed in record time by Johnston Refrigeration Construction Co., has brought many compliments from patrons and has increased attendance, according to theater director Harold R. Munz.

The installation consists of two G-E 40-hp condensing units arranged for 25, 50, 75 and 100% capacity modulation. A potentiometer type of thermostat regulates the cooling selection for exact capacity to maintain the desired comfort conditions.

# HERE'S HOW THEY'RE MADE

## Production Report No. 4

### Air Conditioners (Self Contained)



**I**N THIS, the fourth of a series of "photographic production reports" of industry manufacturing operations, we visit the plant of the Trane Co., LaCrosse, Wis., to see how self-contained air conditioning units are made.

Shown in the photo above is a five-ton unit that has just passed its final examination on the test line.



1. First step in assembly shows joining of the base of the shipping crate with that of the unit. Note rugged steel construction and heavy angle on which condensing unit assembly is mounted. Other sub-assemblies can be seen in the background of the picture.



2. The condensing unit, assembled separately, is now brought together with the base of the unit. Four vibration isolators have been added to the base. All condensers for self-contained units are heavy duty and equipped with spring-load relief valves.



3. The casing of the air-conditioning unit takes shape. To create a quiet operating unit, any noise that might be generated in the condensing unit compartment is confined to that space by  $\frac{1}{2}$ " sound insulation. Insulation can be seen on the bottom of the side panel.



4. Horizontal partitions separating the sections of the unit are being installed of heavy gauge metal. These partitions tie the end panels together and make a rigid assembly. End panels are of 14-gauge metal. Panels are further stiffened by formed edges and angle brackets.



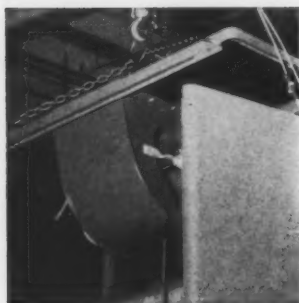
5. Thermal insulation is being added to the end panels after all internal ties between the two end assemblies are in place. One-half inch moisture resistant thermal insulation is tightly held to the sheet metal, reducing heat gains to the conditioning section.



6. A four-row non-ferrous coil, providing adequate dehumidifying capacity, is being lowered into place in the self-contained unit. The assembler is guiding the coil into position with his hand on the suction line which is part of the coil assembly.



# Step by step through a manufacturing plant for 'packaged' air conditioners . . . . .



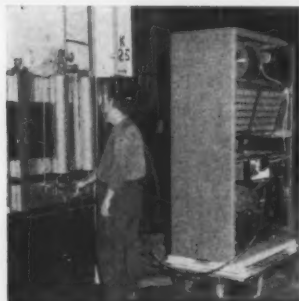
7. The blower assembly, attached to the top of the unit, is being lowered into place. The heavy duty fan delivers large quantities of air with a minimum of noise. Fan housing is isolated by rubber strips. Note the thermal insulation in top and end sections.



8. This photo shows the point at which refrigerant connections are being made. Every joint in the refrigeration cycle is checked with a Halide torch that can pick up a leak of as small a proportion as 2 or 3 parts per million. Units are passed only when proved tight.



9. Thorough dehydration and evacuation of all units is insurance against moisture. Completed unit is rolled into an oven that creates temperatures at 175 F. Connections are made to a pump that creates a vacuum of 100 microns, of which there are 25,400 in one inch.



10. This photo shows the assembler checking a gauge showing the exact amount of Freon 12 being added to the unit. Mercury manometers shown to the left of the assembler are used to measure the vacuum in each self-contained unit while it is in the dehydrating oven.



11. After the air conditioning unit is charged, it is placed on the test line for a four-hour run-in period. Here an inspector checks each unit for normal operation. Gauges are installed, water valve adjusted, V-belt drives checked for noise and current readings taken on the motor.



12. After run-in, the refrigerant charge is pumped into the condenser receiver and suction and discharge valves are closed. The suction line is insulated between drain pan and compressor suction valve. This is done only after the unit has been carefully tested for leaks.



13. Standard throw-away type filters, to handle both recirculated and outside air, are slipped into place on the air conditioning unit. Filters cannot be soaked by water from the dehumidifying coil. Filters are put in before the permanent front panel is installed.



14. A large loop is made in the liquid line in order to prevent all possible transmission of vibration. All external wiring is made in flexible conduit that runs from the electrical box above the compressor motor to the compressor motor and to fan motor in the top of unit.



15. Here is the final step in the assembly operation. Top front panel, enclosing the blower compartment, is being set in place. The unit is now ready for crating and shipment. The assembly operations pictured here typify the careful attention manufacturers give to their products.



# ELECTRONIC CONTROL in Air Conditioning

Further applications of electronic control in the field of air conditioning are outlined in this article, the concluding section of an authoritative discussion of this subject.

## PART 3

**N**UMEROUS other cooling applications involving electronic control are possible, as illustrated by Figure 8 accompanying this article.

In this illustration, dehumidification is controlled from dewpoint air

and a conventional humidity controller is located in the space or return air to set the control point according to humidity requirements. The cooling control circuit is identical to that shown in Figure 5 (See January issue). A separate control circuit is shown for the reheat function which is the normal heating circuit

**By R. J. Michals**

Commercial Division  
Minneapolis-Honeywell Regulator Co.

and similar to that shown in Figure 3 (See December issue).

Referring to Figure 8, it will be noted that the discharge ductstat and

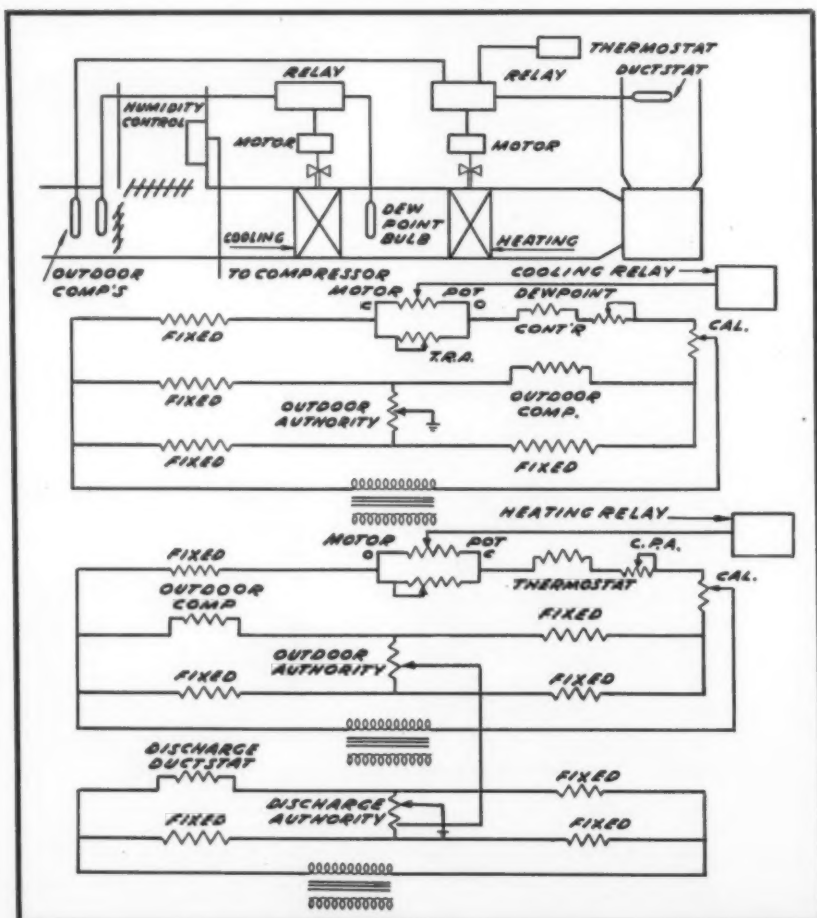


FIGURE 8

authority adjustment have been added to the heating circuit. The discharge authority setting will determine the effect that the discharge ductstat will have on the control system.

Another important advantage of the electronic air conditioning system is in its flexibility. This can best be demonstrated by the following example where the same thermostat is used for both heating and cooling.

In this illustration, Figure 9, a separate electronic bridge and relay are used for the heating and cooling functions. The room thermostat controls both the heating and cooling relays and the deadspot in the electronic bridge provides the differential between the heating and cooling cycles.

With the thermostat control point set at 70 degrees and the deadspot set for 1 degree, both motor potentiometers will be at the closed end if room temperature is 70 degrees. If the room temperature rises, the cooling motor will open to handle the in-

creased load. Conversely, if the temperature drops, the heating motor will open.

In this manner internal loads are readily handled by the room thermostat and upper part of the bridge. However, since it is desirable to anticipate external load changes before they occur, a control is located in the outdoor air to provide an interlock between the upper portion of the bridge with either the heating or cooling bridges depending on outdoor temperature.

With the changeover control in the heating position, the outdoor compensator and discharge ductstat, through their authority setting, will anticipate load changes and influence the heating relay to maintain space temperatures accordingly. With the changeover control in the cooling position, the outdoor compensator, through its authority setting, will influence the cooling relay on the cooling cycle.

The above illustrations on applica-

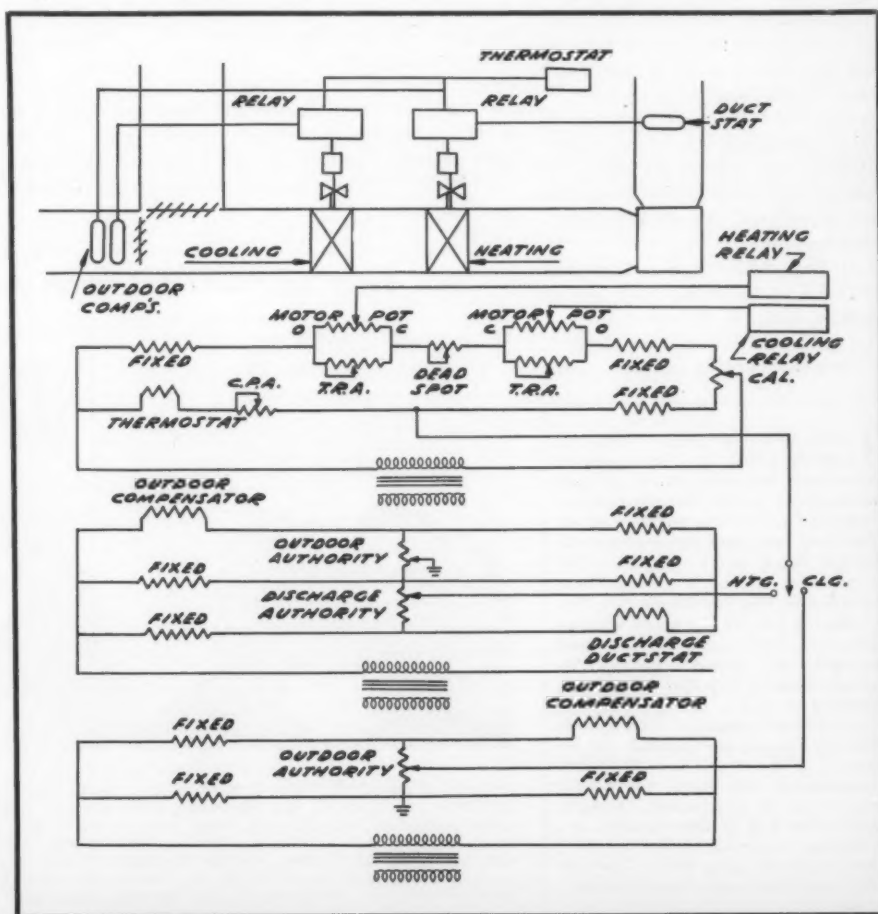
tions are only a few of many possible combinations. To the heating, air conditioning or refrigeration man, it is readily apparent that by the addition or relocation of ductstats, compensators and immersionstats, a wide variety of applications are possible.

The foregoing was not intended to be a thorough technical discussion of electronic control systems and it is expected that numerous questions will be raised in comparing the electronic to the present day electrical systems. Some may raise the question as to calibration, adjustments, maintenance, etc.

In setting up conventional systems, control point settings, throttling range and main scale settings are made at the instrument itself. The electronic system provides for similar settings, but these are found in a centrally located panel which, in addition to providing these adjustments, will also house the electronic relay, calibration

*Continued on page 72*

FIGURE 9



# COMMERCIAL **Refrigerator** SALES NEWS

While *The Refrigeration Industry* is not the official publication of the National Commercial Refrigerator Sales Assn., the Editors assign this space each month to the association. The information below is furnished, for the most part, by the offices of the association and its local affiliates.

## Berch Heads New York Commercial Group in '50

### BERCH HEADS NEW YORK COMMERCIAL GROUP IN '50

Barnett Berch of the Schultz Co., Long Island City, was elected president of the Commercial Refrigerator Distributors Association of New York for 1950 when that group held its final meeting of 1949 at the Alden hotel. Berch also is a director of the National Commercial Refrigerator Sales Association.

Other new officers of the New York group, which will serve during the current year, are: Jack McGorty, Warren-Connolly Co., vice president; Phil Salzman, S & S Refrigeration Co., treasurer; and George Sutphin, Kelnard Refrigeration Co., who succeeded himself as secretary.

The new board of directors of the

New York association consists of the above mentioned officers together with the following: past president Edward Newton, Kelmore Refrigeration Co.; Dave Meister, S. J. O'Brien Co.; and William Gibbons, Standard Refrigeration Service Co.

Director Newton, former secretary-treasurer of the national association as well as past president of the New York organization, presented a complete report to the local group on the vital NCRSA meeting in Atlantic City last November.

### FOGEL FINANCE PLAN AIDS SMALLER DEALERS

A new finance plan designed to "fill the pressing need to help the hard-working and trustworthy small businessman meet competition from large business that has easy access to working funds" has been announced by Fogel Refrigerator Co., Philadelphia.

Called the "FFF", or Fogel Finance Franchise, the plan is being offered to all commercial refrigerator dealers, regardless of whether or not they have a Fogel franchise, the company says. Details of the plan are available by application to the Fogel home office.

The new plan is outlined in a bulletin now ready for distribution. Some of its highlights are:

"Use of coin meters under certain conditions is permissible.

"Carrying charges are a straight 6%.

"Dealer has no cash outlay to make for equipment, as equipment is shipped against approved installment contract.

"Good will of dealer's customer is protected as the continuity of factory, dealer and customer relationship is not broken by the intervention of a bank or finance company that is sometimes not fully familiar with the special problems of the commercial

*Continued on page 50*

### BALLY AD CAMPAIGN PROVES A WINNER



Leon Prince (right), sales manager of Bally Case & Cooler Co., and Donald T. Beaumont, president of Beaumont, Heller & Sperling, Inc., Bally's advertising agency, register their satisfaction at the Direct Mail Advertisers Association award won by Bally in last year's competition. The "Bally Means Business" portfolio was a "best of industry" winner in the refrigeration equipment class. Included in it were samples of sales literature, direct mail, newspaper mats, and displays available to dealers, as well as a complete history of the company and a description of its full line. Three-fold purpose of this Bally campaign was to build additional distribution for the company, consolidate present distribution, and stimulate sales.

**L**ISTENERS to station WSBA in Bridgewater, Va., last summer heard the Reverend M. G. Sanger of that city praise the construction and food preserving qualities of his Ben-Hur farm and home freezer as he was being interviewed about his experience when the North River overflowed and inundated the city.

During the flood, which took at least one life, smashed autos and garages, and moved a home, Reverend Sanger's Ben-Hur freezer was floating around in five to six feet of water in his basement. After he was able to inspect the damage he reported, "The food was absolutely undamaged and there was hardly any water in the freezer. I really got to hand it to that freezer. It's running in tip-top condition—all I had to do was plug it in as soon as the electricity was reestablished."

# Your Guide to Greater Profits in 1950



## THE COMMERCIAL REFRIGERATION AND AIR CONDITIONING MARKETING HANDBOOK

There is commercial refrigeration data compiled in the **MARKETING HANDBOOK** that has never before been included between two covers. Think what it means to have at your finger tips one carefully indexed source which covers:

- What equipment is used in 40 potential sales fields.
- The selling techniques of some of the most successful men in the business.
- Data on how, where and why certain equipment can be sold certain types of trade.
- The engineering data that will enable you to figure many jobs with no outside assistance.
- A cross index of (1) which manufacturers make each type of equipment and (2) what equipment is available and who builds it.

### AN INDISPENSABLE SELLING TOOL FOR ONLY \$5.00

Here's the guide to greater profits for which dealers and their salesmen have been waiting. Here's an indispensable selling tool that points out **WHAT** equipment to sell, **WHERE** and **HOW** to do it. Here's vital information on every piece of air conditioning and commercial refrigeration equipment manufactured and where it is available.

EVERY WEEK YOU'LL FIND  
IT PAYS TO CONSULT  
THIS FACT FILLED  
VOLUME OF 448 PAGES

**MAIL THIS ORDER BLANK TODAY**

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MANUFACTURERS DIRECTORY CO.  
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Send me ..... copies of the Commercial Refrigeration and Air Conditioning  
MARKETING HANDBOOK at \$5.00 per copy, postpaid.

Enclosed is ☐ check, ☐ money order, ☐ company purchase order in the proper amount.

Signed .....

Company Name .....

Address .....

City and State .....

FROM GENERAL ELECTRIC...

*a new*



GENERAL  ELECTRIC

754-1



# Single-phase motor

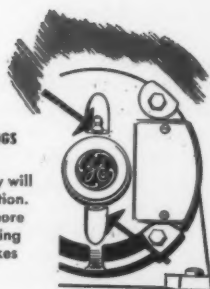
...PACKED WITH *eye appeal*

These 4 wanted features in a complete line from 1 to 5 hp.

Meet the newest member of the famous Tri-Clad® motor family—G.E.'s new single-phase capacitor motor! Whether you sell it by itself or build it into your machines, you'll find it's got more operating "pluses", more sales-worthy features including freedom from radio or television interference. But see for yourself! Arrange with your nearest G-E office to inspect this new G-E motor now. For complete data, write for Bulletin GEA-5401. Apparatus Department, General Electric Company, Schenectady 5, N. Y.

**NEW!** LONG-LIFE BEARINGS  
easy to re-lubricate!

Bearings greased at the factory will run for years without re-lubrication. But, if they should need more grease, a pressure-relief greasing system with convenient fittings makes them easy to lubricate.



**NEW!** LIGHTER, MORE COMPACT  
to save space, shipping costs!

This new Type KCS motor has no capacitor on top, no conduit box on the side to increase over-all dimensions. It's not only more compact but 15 to 20 per cent lighter, too, depending on rating.



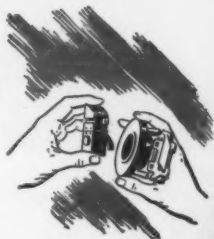
**NEW!** A TERMINAL BOARD  
to make installation easy!

It's easy to hook up this motor. Remove a plate and there's an easily accessible terminal board built right into the endshield.



**NEW!** A TRANSFER MECHANISM  
to make starting a snap!

Smooth reliable starting is assured by a simplified totally enclosed centrifugal mechanism and transfer switch. No rods or pins on the centrifugal mechanism to wear or get out of order!



REG. U. S. PAT. OFF.

**SINGLE-PHASE  
CAPACITOR MOTOR**

# CONTRACTORS

News • Activities • Plans

## Water Conservation Plan Fostered by N. Y. Contractors

A plan to voluntarily assist in stopping waste of water in the use and operation of refrigeration and air conditioning equipment has been formulated by the Refrigeration & Air Conditioning Guild, Inc. of New York City, according to Nathan Edelstein, executive vice president and counsel.

Edelstein reports that the Guild has sent a communication to Stephen J. Carney, New York's commissioner of water supply, gas and electricity, advising him that the Guild has passed a resolution by which its members pledged their services and the services of their employees gratis to check water leaks caused by defective water valves used on refrigeration and air conditioning equipment during the present water shortage emergency.

The plan proposed by the Guild will enable any owner of refrigeration and air-conditioning equipment to obtain an inspection of his equipment, free of charge, merely by calling the Guild offices. A member contractor will be dispatched to the owner's location.

The Guild, having members in every county of New York City and Nassau, Suffolk and Westchester, will be able to assign member contractors to any part of these counties to take care of the calls. If the valve needs adjustment this will be done free of charge by the contractor.

The following method can be used by any owner of equipment to make his own check for defective valves. The owner is instructed to shut off the electric switch of the refrigeration machine, then see if the water continues to run out of the drain pipe into the sewer. If the water continues to run after the machine is shut off, the water valve needs adjustment.

It has been estimated by the city's Water Department that 27% of the water is used by industrial and commercial users. It has also been esti-

mated by the department that 98% of the water used by industrial and commercial users can be reused by water savers such as cooling towers and evaporative condensers.

Usually a normal refrigeration machine runs about 20 minutes out of each hour. If the water valve is defective, the water runs for 60 minutes whereas the machine needs it but 20 minutes.

### N. Y. MAY ASK WATER SAVERS ON ALL JOBS

As another step in its efforts to conserve the city's rapidly diminishing water supply, the New York City Bureau of Water Register has announced that it is preparing new regulations that will require the use of water saving devices with commercial air conditioning and other industrial cooling systems.

City officials estimated that the use

of such devices to recirculate cooling water will save more than 98% of the water that would otherwise go down the sewer.

They stated that "as conditions warrant, after the new regulations have been issued, we are prepared to shut down operations of equipment for which cooling water is not recirculated."

Present regulations require that a recirculation system be used if more than 5 gpm are wasted on any air conditioning system. It was noted that during the war some commercial equipment was installed without recirculating devices because they were not available.



### HOTTEL BUYS CONTROL OF WASHINGTON FIRM

Harvey W. Hottel has purchased the entire interest in Goddard-Hottel Corp., Washington, D. C., and has changed the name of the firm to Harvey W. Hottel, Inc. The firm is a distributor of refrigeration and air conditioning equipment.

### HEAD NEW JERSEY CONTRACTORS



Officers of the Refrigeration Contractors Association of New Jersey are shown here with some of the guests who attended the organization's second annual "ladies' night" banquet at the Flagship, Union, N. J., recently. Seated, left to right, are: Lee Richardson, vice president; A. G. Dietl, president; C. W. Ford, secretary-treasurer; H. Rohloff, sergeant at arms. Standing are Frank Bader, past president; W. C. Nowels, attorney; Ted Yecies, president of the Metropolitan Jobbers Association of New York; W. I. Freeman, chairman of the Garden State chapter of RSES, and T. R. Kearney, chairman of Northern New Jersey section of ASRE.

Condensation of an address by **HARRY BOWSER**,  
director of sales training, **Thomas A. Edison, Inc.**,  
before the 4th annual convention of the **Refrigeration and Air Conditioning Contractors Association**.

## SALES SYMPOSIUM for Cooling Contractors

# A Return to Salesmanship

**SELLING.** It is the most interesting of all professions because it deals with people, it deals with new things, new products, new ideas, it deals in futures and it is fast moving and constantly changing. Today business is moving faster than it ever has in the history of our country. Each week, new methods, new products, new laws, new world events, redraw some section of the business picture.

Business is becoming harder to get, harder to handle, harder to keep. Every day competition becomes keener, the pressure increases.

The years of easy selling have come to an end. We all remember what happened during the war, when the art of salesmanship in this country probably reached an all time low. We realize that our selling muscles have grown soft during these post-war years, when selling has been largely a matter of allotting merchandise to customers. We know that it is time to get back on the job again, that it is time for a return to salesmanship.

Our business prosperity and our national welfare in the period ahead are going to depend to a very large extent upon the return of hard hitting, honest-to-goodness, professional selling based on high ethical standards, a knowledge of product and an understanding of how to adapt those products to the uses and needs of customers.

### RETURN OF SALESMANSHIP AWAITED BY CUSTOMERS

Customers' buying caution, which started when prices hit the heights after the war, was called "Buyer Resistance." There are indications now that the customer is simply in a waiting line—waiting to spend his money when more prices get back to the levels that he knew before the skyrocketing began.

But it is more than prices that the customer is waiting for, although he may not know it. He is waiting for the return of salesmanship. While he waits, many manufacturers aware of the need, are initiating elaborate and comprehensive sales training programs to train men in selling fundamentals forgotten during the war period.

I am not going to tell you anything that you don't already know, and neither is any other speaker that gets before you to talk on sales. There is nothing new to do in selling. We just have to do a bigger job—we must move a vast amount of merchandise into the customer's hands at a profit.

That one link at the bottom of the business chain must be strengthened—the salesman who meets the customer. Today's necessity is a return to salesmanship, and this calls for men who are well trained, well taught and well enthused.

Yes, a good salesman must be enthused about the company he represents and the product he is called upon to sell. When a prospect doesn't believe, he doesn't buy. When a salesman doesn't believe, he doesn't sell.

We need sales to keep the millions of Americans employed, we need sales to maintain our present standard of living, we need sales—period. Yes, we need sales, which means that we need salesmen who can sell.

### DEFINITION: A SALESMAN IS ONE WHO SELLS

I have heard many definitions for a salesman and so have you, but when it comes right down to it, "a salesman is one who sells." Too many salesmen come out of a deal sold, instead of having sold. Sold by the prospect on ideas—that he should put off buying until later, that he should look at everything else on the market before buying, that he should put off making a decision for some reason or other.

We need salesmen who can come home with orders and not promises. We need salesmen who can sell.

If we are going to have salesmen who can sell in this sales era that is ahead of us, we must train them to sell. Train them on how to meet people, how to approach people, how to handle, present and demonstrate merchandise, and above all things how to close—how to ask for the order.

There has never been in the history of our country a greater shortage of real and potential salesmen. Never has the need for expert training and guidance of sales manpower been so great and never has there

been such a shortage of trained, capable, enthusiastic sales executives to supply that guidance.

If any one questions the importance of selling and the part it has had to play in giving this country our present economy and the American way of life, they need only to read the history of selling. Somebody has said, "nothing can happen in our economy until something is sold." The factory whistles can't blow until the cash register rings.

### NOTHING CAN HAPPEN UNTIL SOMETHING IS SOLD

When the first automobile came chugging down the main street of your home town it was generally regarded as a "fools contraption"—as a "rich man's toy"—and the common call of the pedestrian was "get a horse, Mister!" But American salesmanship mounted this nation on wheels.

So it has been with radio, electric refrigeration, air conditioning, plastics, television, frozen foods, fluorescent lighting and countless other new developments. Yes, salesmanship has been the life blood of the American business. It has introduced more new products, built more new factories, loaded more new freight cars, started more new businesses, and created more new jobs than any other force in American business life.

The importance of salesmanship to other people may be recognized through an analysis of what it really does for people. When the record of selling is studied, it will be found that it has been of immeasurable value in raising our standard of living.

The study of salesmanship will also reveal to you that people must be persuaded to improve their living. The fact that people have needs is not enough. Needs are unimportant. It is wants that count. Women don't need vacuum cleaners—they used brooms for hundreds of years. Women don't need washing machines—they used a washboard for generations. Only when the American salesman created in the minds of women the desire and want for a better way of sweeping and a better way of washing

*Continued on page 50*

*Condensation of an address by IRVING B. HEXTER, publisher, Commercial Refrigeration and Air Conditioning magazine, before the 4th annual convention of the Refrigeration and Air Conditioning Contractors Association.*

## What Will You Have To Do To Sell in 1950?

**T**HE subject, "What are you going to have to do to sell in 1950?", is certainly the most important subject confronting you at this minute, because what you do now in your sales efforts is going to be the answer to your profit picture in 1950 and 1951, and to whether you stay in business in 1952.

I think probably the difference between this year's selling and the kind of selling we've had in the past seven or eight years can be visualized this way: During the war years we could sell everything we could get our hands on. As a matter of fact, we ran away from people who wanted to buy from us. The same thing was true immediately after the war, in the 1945, '46 and '47 period.

Towards the latter part of 1947, about 80% of your sales came in that same easy way, but you had to scratch for 20%. In 1948, 60% of your sales came in the easy way, but you had to scratch for 40%. In 1949, you got about 40% of your sales fairly easily, and had to scratch like the devil for 60%.

And in 1950, I think the 1947 pattern will be reversed and you'll get 20% of it over the transom, and have to work for the other 80%.

### LET'S TALK ABOUT SELECTING AND TRAINING SALESMEN

So, what are you going to do to get that hard 80%? There are two big things that you are going to have to do. One is the choice, selection and training of a sales force, and the second is giving that sales force the merchandise to sell and the "tools" with which to sell it.

Let's talk about the choice and training of salesmen. The most expensive thing you have in your shop is your salesman, and a good salesman is your greatest asset. That's going to shock some of you engineering-minded men, but nevertheless, as long as you're in business for a profit, you can have all the engineers you want, but if you have a weak sales force, the best engineering brains in the country can't help you—because

you'll go "busted" before the world finds out what good engineers you do have.

It has been pretty well established by various sales study groups that the average industrial salesman only has four productive hours a day. This makes him doubly expensive or, rather, quadruply expensive, because he has to show you a profit in only one-sixth of his 24-hour day. Your servicemen and your stenographers put in a full 8-hour day. But that is not true of your salesman. It's up to you to make those four hours as efficient as possible.

### GIVE YOUR SALESMEN SOMETHING TO SELL

The first thing you've got to give your salesman is something to sell. If a manufacturer has a weak line, throw it out and replace it by another line. It isn't always true that the line with the longest discount is the best line, because oftentimes the lines with shorter discounts will sell more readily.

There are only four reasons why anybody buys anything. Consequently, sales are made when one of these four conditions is met. First is hope of profit. Second is comfort. Third is fear. And fourth is pride of ownership. There are no other reasons why anything is ever bought by you or anyone else. The consummation of a sale is the gratification of one or more of these four points.

Every one of your salesmen should know these four points by heart and understand them. If he does, and if he knows what to appeal to in talking to the customer, he'll make the sale. Otherwise, he'll miss it.

It seems to me that the most important thing for you to make your salesman understand is that when he goes to a hospital to sell a piece of equipment, or to sell the idea of buying a piece of equipment, there are 15 other items he can sell a hospital. He can sell them everything from reach-in refrigerators and frozen food storage units to plasma and blood storage units. He can sell everything

from walk-in refrigerators and mortuary refrigerators to biological storage cabinets. But he has to know the hospital. He has to know how a hospital functions. He has to know where a hospital uses refrigeration, and why they use it. This is a matter of training.

When your salesman goes into a hotel, there are 13 things he can sell a hotel in the refrigeration line. But does he know it? Have you trained him to find out for himself what he can sell a hotel?

Supposing he's called into an ice cream plant. There are 11 things he can sell in an ice cream plant. Let him find out what they are, and then let him keep suggesting to his prospect, because somewhere along this line he might find a soft spot.

### EVERY SALES CALL IS THREE-FOLD JOB

Here's another way to look at your salesman. Let's analyze his sales call when he gets in to his prospect's office. He's got three things to do. The first job he has confronting him is to sell himself. The second job he has is to sell his house, not only your concern, but the manufacturer of the products he's trying to sell. And the third part of his sales call is divided into two parts, the first of which is creating the desire for the product, and the second is the technical application of the product.

Nothing that you can do can help him to accomplish No. 1, which is selling himself. That is the job which he must do by his general deportment, the ease with which he handles his information, his general appearance, his personality.

Now, point No. 2, which is selling his house—which is you—or selling the manufacturer of the product he's trying to sell. Here, you can be of tremendous help to him. He cannot do more than about 5% or 10% of this job. You've got to do the other 90% or 95% by various methods, principally advertising. It is here that industrial advertising of one kind or

*Continued on page 48*



*Condensation of an address by C. S. STACK-POLE, vice president and general sales manager, Airtemp Div., Chrysler Corp., before the 4th annual convention of the Refrigeration and Air Conditioning Contractors Association.*

# Air Conditioning Imagineering

**G**ONE are the lazy, "lousy with business," "sit on our fannies" days of 1945 to 1948 when anyone who was fortunate enough to have anything of merit or not could just about write his own ticket so far as what he gave to or charged the buyer.

The period of short supply and big demand is gone—and the shoe is on the other foot. The situation now is one where the company or individual who can get his goods into the hands of the user at the lowest possible cost, taking into consideration that the product must be sound, and still have a satisfied customer, is the one who is the top company or man.

## MANUFACTURERS MUST MAKE PRODUCTS PEOPLE WANT

We folks in the manufacturing branch of this industry must never forget that our success and longevity depend upon our ability to make a sound product that people want to buy.

Not long ago, all refrigerating equipment was of the heavy, slow speed, engine-driven type. Condensers were made of iron pipe with water pouring over the outside, and so spaced for cleaning purposes that a man could walk between. Manual operation was the order of the day for one good reason—manpower was cheap. There was no necessity for automatic operation, which in turn would minimize or eliminate operating labor cost.

All of this apparatus required heavy foundation, large concrete pans for the condensers, and heavy supports for the pipe coils, most frequently used on the low side. Due to their weight and the vibration of unbalanced parts, machines were usually placed in a separate room, or on the ground, or in basement locations. From the mid-19th century, there has been pretty much of a constant evolution up to the kind of equipment we know today.

The trend in larger capacity equipment in recent years has been to reduce weight and physical size and to get better efficiency at lower cost. From a broad standpoint, all of this has been accomplished by designing equipment to operate satisfactorily at higher and higher speeds. From the

first 30 rpm compressors, it has been a steady parade to 70, 100, 250, 600, 900, 1400, and 1750 rpm—and it is a well known secret that development work is under way by at least several manufacturers that makes the next step to 3500 rpm a thing to be expected before many years have passed—and certain government agencies are clamoring for development of 6000 rpm.

## STILL PLENTY OF ROOM FOR "PRODUCT IMAGINEERING"

From then on, it's anybody's guess as to the next steps, but look at what happened to small electric motors during the war, where if one could pay the price, a  $\frac{1}{4}$  hp motor weighing  $3\frac{3}{4}$  pounds could be obtained. A standard  $\frac{1}{4}$  hp motor weighs about 28 pounds.

Yes, there's still plenty of room for "product imagineering" in air conditioning.

Then there is the great advancement of the packaged or self-contained unit which made its appearance about 13 years ago and has placed comfort air conditioning within the reach of thousands upon thousands of new potential purchasers. This development has probably done more than any other single factor to bring air conditioning to the fore and make it a business that has an attractive profit outlook.

## SELF-CONTAINED TREND IS TOWARD LARGER PACKAGES

When there is the potential market for a type of equipment where the condensing unit, low side and necessary components can be factory designed to balance out and work together, it means that such an item can be mass produced with resultant cost savings—and an ultimate attractive price to the consumer.

As you all know, the package or self-contained equipment principle is being expanded constantly from the room air conditioners to the larger units of 2 hp, 3 hp, 5 hp,  $7\frac{1}{2}$  hp, and upward, and there is plenty of room to carry the idea on to much larger equipment, particularly of the circulating chilled water variety.

Distributing methods employed to

get a given line of products to market are closely related to, and are often the aftermath of, product development. Later, to the degree that consumer acceptance is obtained, the economic distribution pattern may change, but the first thing is sound product development.

In air conditioning business, I think you will agree that the pioneering stage has been passed and we are several years along in the acceptance stage. From year to year after the war ended, we have seen each one produce, for the well manned distributor, contractor, or dealer, greater volume and better profits. The byword of the prospective purchaser is not now so much "Why should I air condition?" but "When?"

In our own company, and this is true of all sound organizations today, we have been and continue to be great believers in the four paramount ingredients necessary in the distribution of air conditioning if the business is to be profitable and continue profitable. These ingredients are aggressive selling or merchandising; proper sales engineering and product application; good installation facilities; and a well organized service organization.

## MAKE SOUND PRODUCT—THEN SELL IT RIGHT

Assuming that the manufacturer provides a good, sound product at a competitive price, the next step is to make certain that a given job is sold right. By that, I mean not only that the salesman or sales engineer has truly and faithfully represented the product and performance and results to the buyer, but also that there is aggressive promotional work being done by people out "spreading the gospel" of air conditioning and its benefits.

There are plenty of companies in the distribution field in our country which are periodically attracted to the alleged pot of gold at the end of the air conditioning rainbow—many of whom are quite capable of intelligently carrying on the promotional aspects of getting others interested in buying air conditioning, but what then? They are not set up to handle the business and even when their appetites are whetted with a very real

*Continued on page 51*



## **THE WORLD'S**

leading appliance manufacturers are listed among Grand Rapids Brass customers. Because in building the

## **FINEST**

products, in terms of quality and value, it is only natural that they select hardware for their

## **APPLIANCES**

that will continue to look like new and function perfectly through long years of service — hardware which will

## **HAVE**

such customer-attracting features as smart, modern designs, beautiful chrome-plated finishes, and locks with "Living Action" which assure easy dependable operation.

## **GRAND RAPIDS BRASS**

will be glad to estimate your needs in commercial, domestic refrigeration hardware, stove hardware and nameplates for all kinds of appliances . . .

## **HARDWARE**

that will give you and your customers assurance of satisfaction, outstanding quality and workmanship.

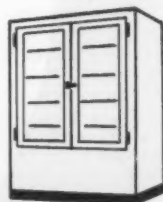
Manufacturers of hardware for COMMERCIAL REFRIGERATORS, DOMESTIC REFRIGERATORS, GAS STOVES, WASHING MACHINES, ELECTRIC RANGES

DIVISION OF CRAMPTON MANUFACTURING COMPANY

*Grand Rapids Brass*

C O M P A N Y

GRAND RAPIDS 4, MICHIGAN



# ABOUT *People*

James A. Norris has been appointed general sales manager of the



brass division of Kerotest Mfg. Co., according to S. J. Roush, Kerotest president. He will be in charge of all the company's brass valve and fitting sales, including refrigeration and liquefied petroleum gas products and compressed gas cylinder valves. Norris joined Kerotest in 1945, and has been serving as west coast district manager with headquarters in Los Angeles. He will now be in the company's Pittsburgh offices.

Robert C. Hood has been elected president of Ansul Chemical Co.,



Hood

Marinette, Wis. to succeed his brother, F. J. Hood, who died suddenly in New York City on Nov. 10. In other promotions, Leonard C. McKesson, sales director, was named vice president in



McKesson



Pope

charge of sales, and Arthur C. Pope was elected vice president in charge of manufacturing.

Hood, 32, has been with Ansul for

10 years except for three years of war service with the Coast Guard. He was named secretary of the company in 1945, and in 1948 was elected a vice president. McKesson has been with Ansul for 22 years as traffic manager, sales manager and sales director. Pope has spent 16 years as production manager of Ansul's sulfur dioxide and methyl chloride plants.

Harold E. Pembroke, formerly sales manager of Stewart Mfg. Co.,



Inc., has been appointed sales manager of the refrigerated storage division of the W. B. Connor Engineering Corp., manufacturer of activated carbon air purification equipment. Pembroke will direct sales and promotion of the recently introduced "Food Saver" for walk-in and reach-in coolers as well as the larger warehouse units.

John S. Twist has been appointed assistant sales manager of Sherer-Gillett Co., Marshall, Mich., manufacturer of commercial refrigerators. He has been with Sherer-Gillett since 1946, first as a factory salesman and most recently as a territory supervisor and sales representative.

Clyde L. Webb has been appointed district manager for Lehigh Mfg. Co., Lancaster, Pa., condensing unit manufacturer, in the territory including Colorado, New Mexico, Oklahoma, Texas, Louisiana, Arkansas, Mississippi, and Memphis only in Tennessee. Besides Lehigh,

*Continued on page 67*

## SALES SLANTS on Air Conditioning

by



Leonard F. Auerbach

### STARTING NEXT MONTH

*Commercial Refrigeration and Air Conditioning* will present a series of six concise, down-to-earth articles on the fine art of selling air conditioning. This is not just another "dime a dozen" generalized treatise on Selling. It is a realistically written exposition of just how and why selling Air Conditioning differs from selling petunia seeds, punch presses or popcorn balls. You will have to read these articles to appreciate them—but just to whet your interest, here are the "chapter headings" for these six punch-packed pieces:

1. Develop a "Professional Attitude"
2. Prospects—Qualify 'Em, Then Follow 'Em
3. Give Your Prospects a "Short Course" in Air Conditioning
4. Design and Sell to Your Prospect's Needs
5. The Phony Objections Are the Toughest
6. Marry Your Customer and Raise a Family of Prospects

Auerbach, who learned his air conditioning salesmanship the hard way, has written these articles on the basis of his own experience, which has included positions as sales engineer in air conditioning for Spohn Heating & Ventilating Co.; sales manager of air conditioning for Allied Refrigeration Sales Corp.; director of sales, air conditioning division, Temperature Equipment Corp. He is currently engaged in air conditioning sales work with Refrigeration Sales Corp.

**BE SURE TO READ THE**  
*"How and Where"*  
*Issues*

**EACH WILL HAVE  
PROFIT POSSIBILITIES  
UNLIMITED FOR YOU  
AND YOUR ORGANIZATION**

**APRIL**

**PROFIT POSSIBILITIES**

**in FOOD STORES**

The April issue will be devoted to "*How and Where*" all types of food stores need and use all types of refrigerated merchandising, display and preservation equipment. The issue will show dealers and their salesmen what equipment can be sold to a grocery, supermarket, delicatessen, beverage store, confectionery store, etc. It will show how such equipment fits into the merchandising needs of the store, how best to prove the economics of buying such equipment to the store owner.

**MAY**

**PROFIT POSSIBILITIES**

**in BUSINESS and INDUSTRY**

The May issue will be the "business and industry" issue. It will show *how* retail stores like dress shops, shoe stores and other retail establishments can benefit from air conditioning equipment. It will show *how* offices will be made more efficient through the use of room coolers, water coolers. There will be enough editorial "ammunition" to provide any dealer's salesman with a lot of new bullets for his sales gun.

**JUNE**

**PROFIT POSSIBILITIES**

**in RESTAURANTS and other Food Service Places**

The June issue will be a complete description of "*How and Where*" restaurants, drug stores, cafeterias, tea rooms can use all types of food dispensing equipment. *How* can a cafeteria increase its sales through a better display of salads? *How* can a restaurant increase its profits by using more frozen foods? What *are* all the pieces of refrigeration equipment that can be sold to a restaurant? Or a drug store? Or a cocktail lounge? This issue will tell you.

**LOOK FOR THESE THREE IMPORTANT AND UNUSUAL ISSUES**

**COMMERCIAL REFRIGERATION  
AND AIR CONDITIONING**

**1240 ONTARIO ST.**

**CLEVELAND 13, OHIO**

# demand **DETROIT CERTIFIED**

## **VALVES**



*It's the talk  
of the  
Industry!*

### **Customer**

You bet they're a natural. You can't beat the performance of Detroit 777 valves. No more costly operating troubles for me, I'm sold on 777.

### **Dealer**

Detroit's 777 series is a natural for me. Their efficient performance results in real customer satisfaction and that means added profits for me.

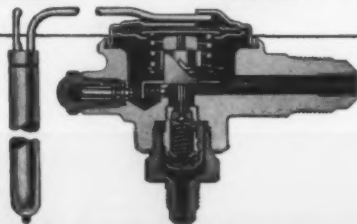
### **Serviceman**

The Detroit 777 series is made to order for me. Compact construction and simple design makes them easy to install and service. Detroit 777 valves are a natural for me!

Yes, they're all talking about **DETROIT'S** new 777 expansion valves. And with good reason—for they are the long awaited answer to many refrigeration problems. Their compact design means ease of installation and space economy. Their rugged, simple construction all but eliminates servicing. But perhaps most wonderful of all is the outstanding performance of the 777 series—smooth, efficient, dependable. Contact your nearest **DETROIT** distributor, and find out for yourself why **DETROIT'S** new 777 expansion valves are the talk of the industry.

### **The New 777—"It's a Natural" to Sell, Install and Service**

- Simple, compact, and rugged construction.
- Large wrench flats—for standard wrenches.
- Cartridge needle and seal assembly simplifies cleaning and inspection.
- Accessible superheat adjustment.
- Stainless steel and brass throughout.
- Anchored Capillary for strength.
- Polished Flare Faces.
- Ball-Type Needle gives desirable flow characteristics.
- Interchangeable Inlets  $\frac{1}{4}$  and  $\frac{1}{2}$  SAE.



# DETROIT

**LUBRICATOR COMPANY**

3900 TRUMBULL AVE., DETROIT 8, MICHIGAN  
Division of **AMERICAN RADIATOR & Standard Sanitary Corporation**  
Canadian Representatives: **RAILWAY & ENGINEERING SPECIALTIES, LTD.**—Montreal, Toronto, Winnipeg



**DETROIT HEATING AND REFRIGERATION CONTROLS • ENGINE SAFETY CONTROLS • FLOAT VALVES AND OIL BURNER EQUIPMENT • DETROIT EXPANSION VALVES AND REFRIGERATION ACCESSORIES • STATIONARY AND LOCOMOTIVE LUBRICATORS**

*Serving home and industry* AMERICAN STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON



# REFRIGERATION INDUSTRY *News*

## KOCH FIRM WILL CONCENTRATE ON REFRIGERATION

Millard Mayer, president of The Koch Butchers' Supply Co., North Kansas City, Mo., announces that the company is going to confine itself henceforth entirely to the manufacture and sale of refrigerators and closely allied equipment. The Supply Division of The Koch Butchers' Supply Co. has been discontinued as such.

The Supply Division has been dealing in supplies for the meat industry, including packing houses, locker plants, and meat markets. Inventory and other assets of the Supply Division will be acquired by Koch Supply Co., 1930 McGee Street, Kansas City, Mo. Koch Supply Co. is a new organization being formed by Raymond Starr, who has resigned as vice president of The Koch Butcher's Supply Co.

Starr has been an officer of The Koch Butchers' Supply Co. for many years. Most of the personnel of the Supply Division of the older organization will join Starr in Koch Supply Co.

The Koch Butchers' Supply Co. will continue its Koch Refrigerators Division at its present North Kansas City address, and will expand to take in all the floor space being vacated by the Supply Division.

Personnel of the refrigerator organization will remain unchanged, with the following, among many others, continuing in their present capacities: W. R. McShane, sales manager; Sam Glass, advertising manager; C. K. Litman, general plant superintendent; O. W. Marr, production manager; and Clarence Masters, product development manager.

In announcing this division of interest, Mayer said: "This separation of activities is a normal and natural one. It has been brought about by the steady growth of both divisions of

## MAPPING EDUCATIONAL MEETINGS



Preliminary plans for the 1950-51 series of REMA-RSES Educational Conferences were discussed at a meeting of REMA, RSES, and REWA representatives during the ASRE winter meeting in Chicago in December. Seated, left to right, are: Carl Neisel, RSES vice president; George Mills, REMA; K. B. Thorndike, REMA president; H. T. McDermott, RSES secretary; G. E. Graff, REMA. Standing, left to right: W. Vernon Brumbaugh, REMA secretary; Willis Stafford, RSES; Paul Reed, RSES; Charles Harris, RSES president; H. F. Spoehrer, REMA; Cecil Visger, RSES vice president; and John Spence, RSES.

the company, and the attendant need for more concentrated management for each.

"I am particularly enthusiastic about the new opportunities for the refrigerator business, to which I shall be devoting my entire attention. We have been badly cramped recently for both production and office space. This latest expansion will be of benefit to our entire organization."

## FIRE AT SUNROC CO. RAZES MAIN PLANT

Fire destroyed the main plant and office building of the Sunroc Refrigeration Co., water cooler manufacturer, at Glen Riddle, Pa., on Dec. 5 despite the efforts of firemen from 10 neighboring communities, but failed to stop production of water coolers.

Orville Morrison, Sunroc president, watched in below freezing temperatures as the blaze destroyed an estimated \$500,000 worth of property, tools, equipment and partially assembled products in less than an hour in the four-

story, 73-year-old building.

The next day, however, a makeshift assembly line was set up in adjacent buildings, and production started within a few hours.

A night watchman discovered the blaze sometime after 2 a. m., and within an hour 10 fire departments were on the scene to fight it, but to no avail. Unable to save the main plant, firemen switched their efforts to protecting nearby warehouses housing an estimated \$100,000 inventory of Sunroc products. The main plant building was a complete loss, with walls damaged beyond repair.

The fire was the second in 13 months for Sunroc. On Nov. 2 of 1948, a fire in one of the company's warehouses destroyed \$250,000 worth of property.

## ADDS WORTHINGTON

Detroit Ice Machine Co. has signed a franchise covering the sale of Worthington air conditioning and refrigeration equipment for the eastern half of Michigan.

## REMA-RSES PLAN 4 REGIONAL SHOWS

Three and possibly four educational conferences and exhibits will be sponsored by the Refrigeration Equipment Manufacturers Association during 1950 and 1951, according to an announcement by F. G. Coggin, chairman of REMA's Education Committee, following a meeting of the REMA-RSES Educational Conference and Relations Committee. Plans are still in a formative stage with various cities under consideration.

These educational conferences will follow the same general pattern as the four regional conferences held during 1948 and 1949 in San Francisco, Boston, Chicago and Birmingham, Alabama.

Announcement of location and dates will be made as soon as definite arrangements can be completed as to location and date.

## BERGDOLL HEADS ASRE FOR 1950

John G. Bergdoll, Jr., vice president and general works manager of York Corp., York, Pa., was elected president for 1950 of the American Society of Refrigerating Engineers at the final session of the society's 45th annual meeting in Chicago.

Bergdoll has been active in affairs of the society for a number of years, serving as treasurer from 1943 to 1945 and vice president in 1948 and 1949. He has been connected with York since his graduation from Lehigh.

Other officers of the society who will serve with Bergdoll in 1950 are: vice president, Paul B. Christensen, Merchants Refrigerating Co., New York City; vice president, Edward Simons, consulting engineer, San Francisco; treasurer, R. C. Jordan, professor of mechanical engineering, University of Minnesota, Minneapolis.

# A PRIZE PACKAGE FOR YOU

SIMPLY PLACE A  
SMALL INITIAL  
ORDER FOR  
FAMOUS

AIR CONDITIONING

**SNO-BREZE**  
AIR COOLER  
SALES  
AGREEMENT

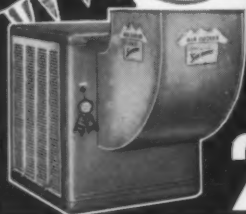
# SNO-BREZE

  
AIR COOLERS

We give you all the information and material  
you need to understand and promote this highly  
profitable business.

HERE'S THE

SNO-BREZE IS  
NOT JUST A FAN  
IT COOLS  
THE AIR TOO!



Retail from  
**29<sup>75</sup>**

- Tested and proven Sno-Breze units fully guaranteed.
- Complete selling, installing and servicing details.
- Eye catching, interest arousing animated display.
- Counter cards, string tags and direct mail material.
- Mat service and cooperative advertising program.
- 100% company paid newspaper ads in leading markets.
- Heard on several coast to coast radio networks.
- Seen in LIFE, TIME, BETTER HOMES & GARDENS and other leading national consumer magazines.

*Get ready NOW to Snow-ball  
your profits with Sno-Breze.*

MAIL COUPON TODAY FOR FULL DETAILS

**Palmer**

MANUFACTURING CORPORATION  
PHOENIX, ARIZONA DEPT. Z-1  
Branches in Los Angeles, Cal., Dallas &  
Lubbock, Texas

Please rush details on Sno-Breze sales package

We are dealers ☐ Distributors ☐

FIRM \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

41 YEARS AIR CONDITIONING LEADERSHIP



**a low cost refrigerant  
service hose that  
offers everything  
you want . . .**

Chicago Metal Hose Corporation has  
combined over 47 years manufacturing expe-  
rience with modern mass production facilities  
to produce a really dependable, high quality  
refrigerant service hose that offers everything  
you want at a minimum cost —

- Liquid-tight — flexible steel liner
- Non-kinking — non-collapsible
- Withstands repeated flexing
- Great torque resistance

CMH Refrigerant Service Hose is made in con-  
venient standard lengths with a wide choice of  
standard couplings. Available from your refrig-  
eration supply jobber or if he does not stock  
it, ask him to order for you. Write for com-  
plete details.

## CHECK THIS CONSTRUCTION

COTTON BRAID

STEEL LINER



NEOPRENE PACKING

NEOPRENE JACKET

**cmh**  
ONE dependable  
source for every  
flexible metal hose  
requirement.

**CHICAGO METAL HOSE  
CORPORATION**

Leaders in the Science of Flexonics

MAYWOOD, ILLINOIS

Plants at

Maywood, Elgin and Rock Falls, Illinois

In Canada:

Canadian Metal Hose Co., Ltd., Brampton, Ontario

## HARD SELLING CAN BOOST SALES 25% G-E MEN ARE TOLD

A 25% increase in the sales of air conditioning and automatic heating equipment can be achieved in 1950 by aggressive merchandising plans, Harold F. Smiddy, vice president of General Electric Co. and general manager of its air conditioning department, stated at a meeting of the department's distributors in New York on Dec. 12.

The meeting was attended by more than 350 distributors of the company's automatic heating, air conditioning and commercial refrigeration equipment. The all-day program, presented at the 48th St. Theatre, was devoted to a preview of plans, products and sales programs for 1950.

"Public acceptance of air conditioning products reached a new high during the past year," Smiddy said, "yet less than 10% of the potential market has been sold. The time has now come when good, aggressive selling can increase industry sales by at least 25% in the coming year."

Smiddy based his statement on four factors—improved products, greater public acceptance, plans for a better selling job, and revived promotion of air conditioning equipment by electric utility operating companies in many parts of the nation.

In his report, Smiddy announced that General Electric's position in the air conditioning and automatic heating industry will be enhanced by a four-point program covering the development of packaged equipment and merchandise, more simplified product lines and models, plans for promoting year-around markets, and the largest national advertising program directed at users of air conditioning products ever undertaken by the company.

Other speakers outlined plans toward realizing increased sales in 1950. Foremost among the plans described is a national advertising campaign which will be the biggest in the department's history. Highlight of the campaign will

## GETTING A PREVIEW OF 1950 PLANS



General Electric air conditioning and commercial refrigeration equipment distributors at their recent meeting in New York City previewed G-E's national advertising plans. Blown-up illustrations of ads to be featured in the series are shown in the photo above.



Distributors stop during their tour of the G-E air conditioning department plant in Bloomfield, N. J. to observe packaged air conditioners undergoing performance tests.

be 24 full- and half-page advertisements in the Saturday Evening Post. The theme of the campaign, "It's the Heart that Counts," will emphasize the benefits of the company's basic research and engineering contributions to refrigeration and combustion.

R. S. Peare, vice president in charge of advertising and publicity, and D. C. Prince, vice president and general manager of the general engineering and consulting laboratory, also addressed the distributors.

At the conclusion of the session in New York, distributors boarded buses for Bloomfield where they were taken on a tour of the Bloomfield plant, manufacturing and administrative headquarters of the department.

Following the tour a dinner meeting was held at the Hotel Suburban in East Orange, N. J., at which R. W. Johnson, vice president in charge of affiliated manufacturing companies, was the speaker.

## NEW OFFICERS FOR EASTERN ASSN.

At the annual meeting of the Eastern Refrigerator Manufacturers' Association, Inc., the following officers and members of the board of directors were elected for the year 1950:

President, Barney Berch; vice president, Milton Schwartz; secretary-treasurer, Julius Anolick; board of directors, Bernard Clark, Joseph Colonese, Albert Davis, Charles Raffae, Abe Schreckinger, Irving Rubinfeld.

## LAWSON NAMED NEW NEMA PRESIDENT

Charles T. Lawson, vice president in charge of sales, Kelvinator Div., Nash-Kelvinator Corp., was elected president of National Electrical Manufacturers Association at its 23rd annual meeting.

Lawson joined Kelvinator in 1939, having previously been associated with Westinghouse and Frigidaire. He has held his present position since 1943.

## LOCKER GROUPS AGREE TO HOLD JOINT CONVENTION

A joint convention of the National Frozen Food Association and the Frozen Food Locker Association will be held Sept. 10 to 13 at the Palmer House, Chicago, according to announcement by executives of both organizations.

This exposition, to be known as the National Frozen Food Locker Convention, will be under the auspices of both groups. Several weeks of negotiations between top officials of both organizations resulted in the decision to hold a joint convention in 1950.

All locker operators, manufacturers, contractors, and suppliers will be invited to participate in the show. Each organization will hold its own business meetings, elections, etc., but clinics, speakers, and banquet will be a joint enterprise of both groups.

Convention committee, empowered to work out all details of the 1950 showing, is comprised of two officials from each organization as follows:

J. A. Smith, director, FFLLI; A. A. Todoroff, executive secretary FFLLI; W. H. Hasebroock, president NFFLA; and S. T. Warrington, executive secretary NFFLA.

## COURTHOUSE COOLED

First completely air conditioned court house and civil courts building in the southeastern U. S. has been completed at Newport News, Va. A four-story building, the new court house includes four court rooms, 16 offices for judges, clerical workers and the clerk of the corporation court of Newport News. Detention cells, work rooms, storage and file rooms also are included. A 50-ton central type system serves the building.

## MUFFLY MOVES

Glenn Muffly, Springfield, Ohio, refrigeration consultant and patent expert, has announced removal of his offices to 1541 Crestview Drive in that city.



## "SCHAEFER BRUSHES SOLVED OUR PIPE CLEANING PROBLEMS AND



**CUT CLEANING COSTS OVER 40%"**

Writes Mr. E. A. Knab  
Pres. of The Knab Co., Plumbing and Heating Contractors

Milwaukee, Wis.

Schaefer Brushes are designed to clean the toughest jobs under the worst conditions quickly and efficiently. The money you save in time by insisting on Schaefer Brushes will more than pay for the cost of the brush. Schaefer Brushes are made from the finest materials under strict supervision. Every brush carries our seal — look for it!

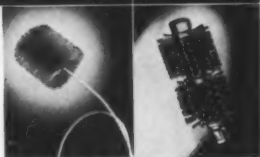
### SEND US YOUR CLEANING PROBLEM

Everyone has, from time to time, a particular job of cleaning for which no brush is suitable. When these problems arise send it to Schaefer to be solved.

Send for latest catalog No. 449

**SCHAEFER BRUSH MFG. CO.**

117 W. Walker St. "Always Buy Schaefer — It's Safer" Milwaukee 4, Wis.

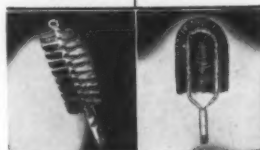


No. S. 441

Furnace Brush

No. S. 555

Expansion Plug Brush



No. S. 432

Boiler Plug Brush

No. S. 313-Double

Stem Boiler Brush

#### SCHAEFER BRUSH MFG. CO.

117 W. Walker St., Milwaukee 4, Wis.

Please send more information about your service for solving special cleaning problems.

Name \_\_\_\_\_ Title \_\_\_\_\_

Company Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

## FRIGIDAIRE DROPS 7 CABINET PRICES

Price reductions ranging up to more than 10% for seven Frigidaire ice cream cabinet models have been announced by W. F. Switzer, commercial sales manager of Frigidaire Div., General Motors.

Switzer pointed out that the new price cuts have been made possible by more advanced mass production methods. He said that the new low price schedule will include six of the new self-contained white-lidded models, featuring top-to-bottom storage compartments, and an open-type "Zero Self-Server."

The round-up of price reduction percentages by models follow: ICL38-15, three-lid single row ice cream cabinet with 15-gallon storage capacity, 5.9%; ICL48-20, four-lid single row with 20-gallon capacity, 5.9%; ICL4D-25 four-lid double row with 25-gallon capacity, 5.9%; ICL6D-35 six-lid double row with 35-gallon capacity, 10.7%; ICL8D-50 eight-lid double row with 50-gallon capacity, 9.2%; ICL10D-65 10-lid double row with 65-gallon capacity, 6.9%; and ICOL-82 open-type Zero Self-Service cabinet with a storage capacity of 8.2 cu. ft. for ice cream products or frozen food, 6.4%.

## NORGE TO SHIFT HDQS. TO CHICAGO

Norge Div. of Borg-Warner Corp. will move its executive, administrative, sales, advertising and accounting departments — now located in Detroit — to Chicago during the summer of 1950, according to an announcement by George P. F. Smith, Norge president.

A large and attractive space on the second floor of the Merchandise Mart in Chicago has been leased where a permanent display of Norge appliances will be maintained in connection with the offices.

"No Norge products have been manufactured in Detroit since before the war," said Smith. "Therefore, it seems highly desirable to move our offices to the home furnishings center of the nation, which will result in closer contact with, and in better service to Norge's 72 distributors and 14,000 retailers."

## G-E WATER COOLERS NOW AT BLOOMFIELD

Transfer of water cooler manufacturing operations of General Electric Co.'s Air Conditioning Dept. from Bowling Green, Ky., to Bloomfield, N. J., has been announced by Harold F. Smiddy, vice president of the company and general manager of the department.

The move will consolidate manufacturing operations with sales, engineering, and warehousing operations already carried on at the department's headquarters in Bloomfield and, in line with the return of all-out competitive markets, will effect the desirable economies afforded by centralized operations.

At the time when water cooler production was established in Bowling Green, the company's facilities in Bloomfield were assigned to the production of other product lines. Subsequent reassignment of facilities and a modernization program have combined to make available in Bloomfield the space and facilities necessary for the consolidation.

## TEKNI-CRAFT MOVES TO ROCKTON, ILL.

After being manufactured in Beloit, Wis., since 1926, Taylor ice cream freezers will now be made in Rockton, Ill., four miles south of Beloit.

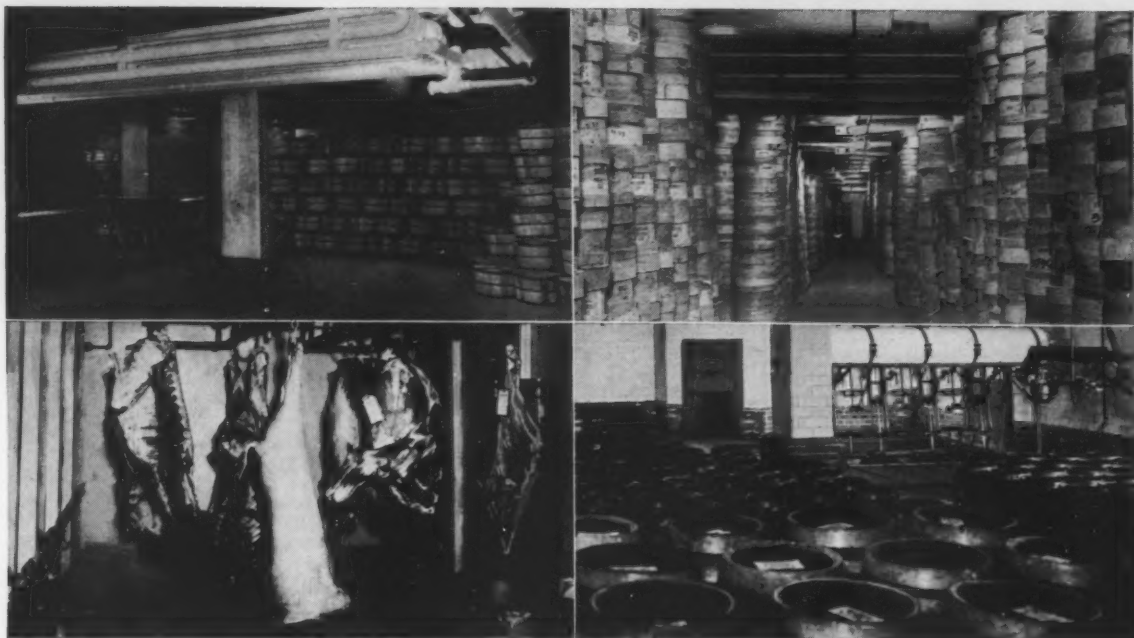
One of the largest quonset type buildings in this part of the country has just been completed for this purpose, and is already in use. Although some parts will be manufactured in Beloit for a few months, headquarters and assembly will be at Rockton.

Plans have been completed for a large modern factory building on the Rockton site to be started early in the spring.

## JOINS HPAC GROUP

Directors of the Heating, Piping and Air Conditioning Contractors Chicago Association have announced that Thomas M. Cunningham, formerly director of industrial relations for Carrier Corp., has joined the organization's staff. On July 1, 1950, Cunningham will succeed Louis T. Braun, who is retiring as executive secretary.

## No. 1 Insulation value for all refrigeration use . . .



*the reasons*

... **LOW THERMAL CONDUCTIVITY**  
... **MOISTURE-RESISTANCE**  
... **PROVEN LONG LIFE**



On cold lines—in cold rooms—Rock Cork\*, the No. 1 refrigeration insulation, gives years of trouble-free service. Basically mineral in composition, it stays sanitary and odorless, is immune to vermin, is moisture-resistant,

and will not support mold growth. It safeguards even the most sensitive food products because it is free from offensive odors.

Rock Cork is available in sheet, lagging and pipe insulation form . . . in all standard sizes and thicknesses. The pipe insulation is protected with an asphalt saturated asbestos felt which reduces the need for seam filling and speeds installation.

**Skilled applicators assure best performance**  
—remember an insulation is only as good as the

man who applies it. To assure correct application and to obtain the highest dividends from your insulation investment, have an experienced Johns-Manville insulation applicator engineer and apply your job.

### New Folder gives complete data

Write for folder IN-122A. Contains property tables and other useful information about Rock Cork Insulation. Johns-Manville, Box 290, New York 16, N.Y.



\*Reg. U. S. Pat. Off.



**Johns-Manville**

# ROCK CORK

## REFRIGERATION INSULATION

and AIR CONDITIONING • FEBRUARY, 1950

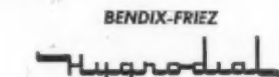


# SALES AND SERVICE

## BOTH Need the Facts

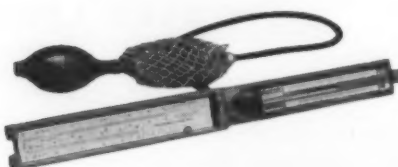


The proper installation of new equipment and satisfactory maintenance of old installations requires exact knowledge of relative humidity and temperature conditions. Bendix-Friez, manufacturers of the world's foremost meteorological equipment, makes a quality line of servicemen's instruments for heating and air conditioning work.



**BENDIX-FRIEZ**  
**Precision Humidity and Temperature Indicator, Model 185**

Hair-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 5½" wide, 1½" deep—desk or wall mounting. A genuine precision indicator reasonably priced.



**BENDIX-FRIEZ**  
**Hand Aspirated Psychrometer, Model HA/2**

Pocket size, a new standard of convenience in measuring relative humidity. Accurate readings obtainable without special skill. Psychrometric readings can be taken at any point desired however inaccessible.

**BENDIX-FRIEZ**  
**Portable Humidity and Temperature Recorder, Model 160—**

3" x 5" charts, 10 or 30 hour records. Modern design... handy for small space and difficult locations... built to meet unusual conditions.



WRITE:

**FRIEZ INSTRUMENT DIVISION of**  
1356 Teylor Avenue  
Baltimore 4, Maryland

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.



**HEXTER . . .**

*Continued from page 36*

another comes into its fullest use.

The third part of this industrial call we divided into two parts; one was the creating of the desire for the product, and the other was the application. Usually, advertising can do the first of those two parts very well. But advertising, unfortunately, falls down badly on the second half. And there, again, your salesman, his sales training, his intelligence and his acceptability to his prospect come into play.

This whole question of advertising for men in your business is a very difficult one. I think if I had your job to do I would stick principally to direct mail. I think that direct mail for a local operation is probably the most efficient and the least costly of the few ways you do have at your disposal. Of course, even direct mail can be expensive if you don't use it efficiently. There's very little profit in mailing out 1000 or 2000 pieces to a list half of which have died.

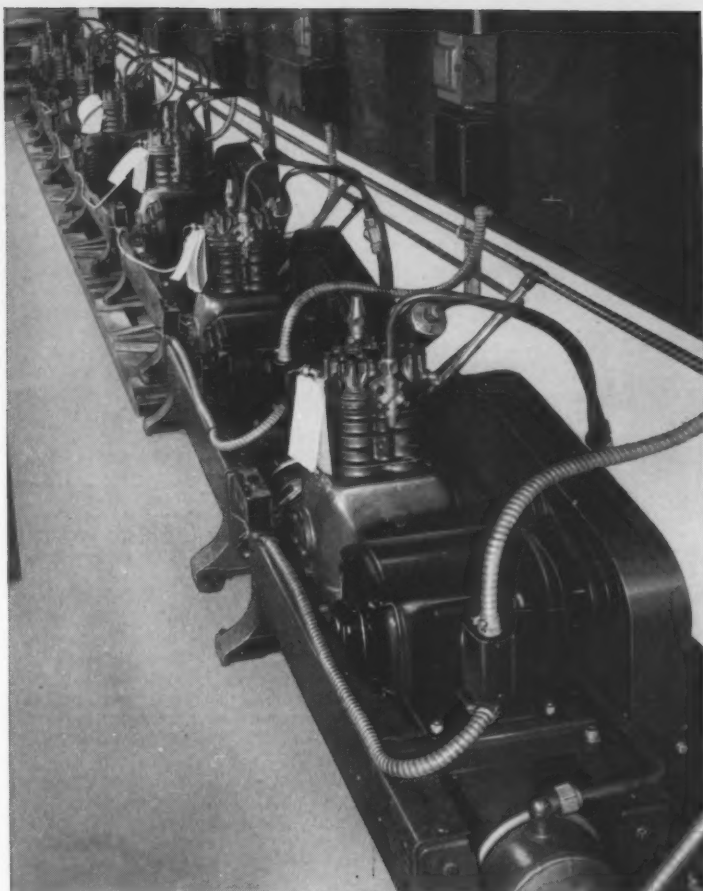
If you're going to put forth any kind of an intelligent effort, you can afford to get a girl who has had some direct mail list experience, and you'll pay her salary by just letting her keep your list in shape.

If an intelligent letter on your letterhead is the main piece of your direct mail, and you attach to that a folder provided by the manufacturer, I think it makes a very effective and dignified direct mail piece. Such pieces should be sent out with the same intelligence that you would write a personal letter. To plaster the horizon with 1000 pieces provided by the manufacturer of a beer cooler, to churches, schools, hospitals, and the like, is a waste of money, and makes your company appear in an exceedingly bad light.

By a consistent, intelligent use of direct mail, you'll be surprised how your name will be known. Not only will some direct business result, but more important than that, your salesman will not have to justify the company he works for, or the product it sells. You will make every salesman's call that much shorter, and the salesman will find that your company will have gotten an acceptance from his prospects far above any acceptance that he can get for you.

### RHODES TO NEW ORLEANS

Lowell Rhodes, formerly with Twentieth Century Refrigeration & Air Conditioning Corp., Louisville, Ky., has been named general manager of B. & B. Appliance & Supply Co., 542 Frenchmen St., New Orleans. He succeeds L. C. Vergona, who has resigned.



# 9 MILLS CONDENSING UNITS

**In the New  
Serve-All  
Super Market,  
Lincoln, Nebraska**

In modern markets such as Nebraska's new and largest Serve-All Super Market at Lincoln, refrigerated cases and walk-in coolers are probably the most important features.

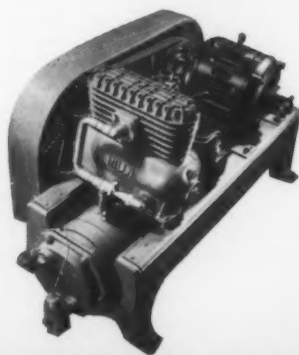
In this successful market there are nine Mills Compressors and Condensing Units. Seven are used in connection with the 128 lineal feet of Viking Open Self-Service Refrigeration Cases and are installed in the basement as shown above. Two other Mills Units are placed directly alongside two Walk-in Viking Coolers.

For such continuous service applications—the uniform high quality, ruggedness and long-life performance of Mills Units have made them first choice in the field of refrigeration.

## **MILLS INDUSTRIES, Incorporated**

4100 Fullerton Avenue, Chicago 39, Illinois

Our handy guide for Condensing Unit selection—60-page Catalog 204-1, will be mailed on request.



# MILLS

## COMPRESSORS AND CONDENSING UNITS

and AIR CONDITIONING • FEBRUARY, 1950

## COMMERCIAL SALES . . .

*Continued from page 30*

refrigerator dealer and customer.

"Volume of installment business which could be written is unlimited as long as the terms and credit requirements of the purchasers conform with the policies laid down by Fogel."

In announcing the plan Fogel said that "under the standard finance plans usually offered by finance companies, a dealer could only qualify if

his net worth was sufficiently large to warrant the extension of credit. In many cases, the dealer's application was rejected because his net worth was not considered adequate; or because the finance company felt . . . that he was not liquid enough . . ."

Many worthy dealers who may not meet rigid finance company regulations can qualify for assistance under the Fogel Finance plan by virtue of their experience and integrity, the company's statement said.



## Oversize business without overstocking Gilmer V-Belts

The 50 Gilmer V-Belts in Assortment No. 355 enable you to give quick, correct service on almost any refrigerator drive. Sharp flexing and limited radiation space won't bother Gilmer V-Belts. They fight inner heating with their Rayon Pulling Cords, fully cushioned all-around and jacketed against the effects of air, gases, moisture, oil and dirt.

Made to hold their length, cross-section and surface, Gilmer V-Belts

hold their grip. Adding to these out-and-out selling features, the Gilmer No. 355 Assortment gives you a compact 8-hook Metal Wall Rack—plus the Gilmer Handimeter (patented) for instant belt measure—plus Gilmer V-Belt Catalog for quick answers on any special needs—plus Gilmer Inventory Card for simpler stockkeeping—plus an expert's Window Display Card for pulling business your way with the power of the Gilmer name.

*You get set for profit by calling your Gilmer Distributor*

**L. H. GILMER COMPANY, Tacony, Philadelphia 35, Pa.**

Division of United States Rubber Company



## BOWSER . . .

*Continued from page 35*

clothes did women turn to these modern conveniences which have given them a better way of life.

Yes, people have to be taught to want the good things in life and to pay for them in order to really enjoy them. The intelligent salesman knows that his efforts cause people to raise their standard of living as a result of his effort.

The salesman also knows that his efforts help to reduce the cost to customer. He knows if only 1,000 persons without benefit of salesmanship use an article, it may cost \$10.00, but when salesmanship is applied, the production costs are likely to be lowered to bring the price down to \$5.00 or even \$1.00.

In the long run, consumers benefit from effective salesmanship. The intelligent salesman does not offer apologies for selling. Rather, he is proud of the fact that the results of his selling make him, economically speaking, a public benefactor.

We all agree that jobs and plenty of them are the basic answer to our present problem. Since goods and services must be sold, must change hands to keep people employed, selling assumes an importance heretofore unequalled. Full employment in this country depends upon a return to salesmanship.

Selling and its strong ally, advertising, have been largely responsible for raising our standard of living. They tell us of the new products which enrich our lives, show us why it is to our advantage to own them, and then induce us to buy.

Advertising and selling have worked together hand in hand to make the luxuries of yesterday the necessities of today. They have given us more leisure time, greater comfort, broader horizons. It has been said that advertising pushes people toward the product and selling pushes the product toward the people. If we are to keep the wheels of industry running, by moving the vast amount of merchandise which is being produced today, more emphasis must be placed on these two important phases of distribution—advertising and selling.

The salesman has been called the spark plug of our economy. If America is to continue to develop markets year after year for new products—products yet undreamed of—we will indeed need to return to salesmanship.

## REEVES TO JACKSONVILLE

Carlton A. Reeves has been named local manager of General Electric appliance sales in Jacksonville, Fla., it has been announced by J. M. Walker, district manager. He will make his headquarters in Jacksonville.

## STACKPOLE . . .

*Continued from page 37*

and very earnest desire to do things that are necessary to get into the business on a sound basis, they have all the symptoms of an "apoplectic attack" when the details are unfolded to the realistic requirements to handle air conditioning successfully and profitably.

So, whereas these types of potential outlets have the capacity for promoting the business and offer a pin on a map coverage, these other shortcomings make any move in that direction most unwise. "Know-how" coupled with a realistic sense of selling are still paramount in our business.

The preponderance of promotional and sales work being done today is by



the outlet which is handling package units. Here the accent has been on straight merchandising, going outside the store to find someone who had the need and the money to buy. With this type of dealer, the hazard was not great, because although package units required application engineering, installation proficiency, and after service facilities, they did not have to be available in the same degree and of the real magnitude necessary for the successful handling and close coordination of the trades where larger jobs were involved.

Also, these package handling outlets got a start because they had a "philosophy of contentment" in working a multiplicity of small unit jobs ranging from \$1,000 to \$10,000 and getting a fair share of them, rather than to work one or two really big jobs and lose all. This type of operator, it seems to me, has an opportunity, under proper guidance, to gather the necessary experience and know-how to graduate into the profitable handling of larger and larger jobs and to work those jobs as they arise, at the same time enjoying the steadier flow of the more numerous smaller jobs.

Now, there is also another type of

outlet that has great possibilities, perhaps even more than the one I have just described, and this one to which I refer is the air conditioning and refrigeration contractor.

The old line contractor brought up in the "old school" is a venerable institution of experience and so well versed in construction work, with all that shrewd correlation of sub-contractors and versatility of charges on a job in progress, that no one except another engineering firm of equal ability can compete. He, for years has been interested only in the larger and more complicated jobs with much engineering, much design work, and an extensive variety of drafting. He loves

the kind of job where ingenuity of the highest order is needed.

There will always be a number of organizations of this nature who "stick strictly to their lasts" and they do a marvelous job, serve a most important purpose, and they have a high place in the scheme of things.

Then there's another type of contractor very closely allied to this one, who has gone through the hardships and the lean, long years of the pioneering stage of the industry, but has weathered the storm. He is out in the clear with a select group of clients who, having found that satisfaction has been delivered faithfully and constantly, now call him in when-



## . . . a lifetime of LOW COST TRUCK REFRIGERATION!

Kold-Hold "Hold-Over" Truck Refrigeration puts extra profits in your pocket. It protects products in transit and gives it greater customer appeal. It does all this for less than 10 cents a day, less than the cost of ice alone.

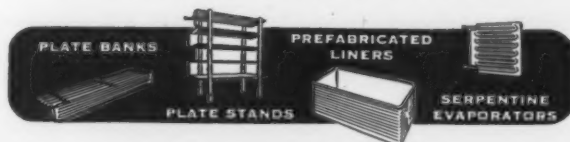
With Kold-Hold "Hold-Over" Plates you can predetermine the desired truck temperature throughout the longest day's runs to keep products safe, clean, attractive and more saleable. "Hold-Over" Plates last the lifetime of the truck. The extra long life of Kold-Hold "Hold-Over" Plates is due to exclusive design features which eliminate operational failures. In

"Hold-Over" Plates, the outer edges freeze first and the strain caused by expansion is placed on the center and strongest part of plate.

### NO CASE OF OPERATIONAL FAILURE EVER REPORTED

With over one-half million "Hold-Over" Plates in use today, no case of operational failure has ever been reported. Trucks equipped with Kold-Hold "Hold-Over" Plates have been subjected to the most severe operating conditions possible, in all types of trucks. Never yet have they failed to provide the refrigeration needed.

See your local refrigeration supplier or write us for details



## KOLD-HOLD

protects every step of the way

KOLD-HOLD MANUFACTURING CO., 503 E. Hazel St., Lansing 4, Mich.



ever they have a job. This is truly an enviable position.

It is certainly much sounder and safer, I believe, for the experienced air conditioning and refrigeration contractor to "squin, squat, or stoop," if you please to the practice of merchandising air conditioning by going out and making an aggressive effort to cultivate and look for business, than it is for the package unit merchandiser to bite off a large central station job and then try to digest it.

Basically it comes down to the capacity and flexibility of the management—the fellow who is running the business. After all, he has a place of business; he has engineers, drafts-

men, typists, installation crews—perhaps even has some of the trades under his own roof—and if not, he knows the best outfits to do business with when he has to buy out on rigging, plumbing, wiring, and sheet.

What more beneficial and easier thing can anyone conceive after having all of this fine organization than that he add a complement of sales engineers operating on a sound and conservative, but not too conservative, merchandising plan to insistently, persistently and consistently use their common sense and sales imagination to create more business.

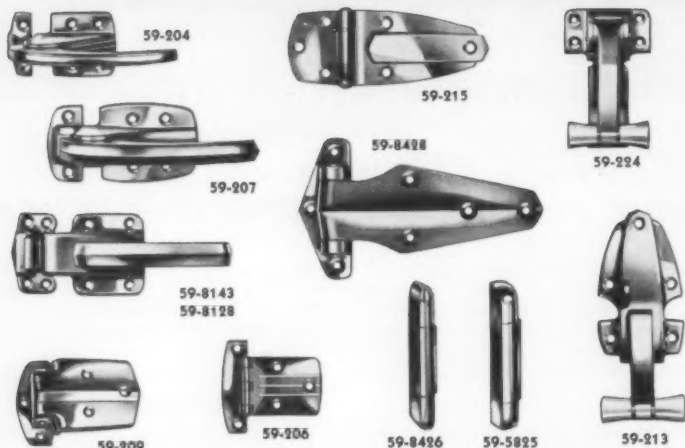
He could darn well be surprised at how much good business there is

when he really goes out and looks for it, and especially when he lets people, lots of people know that he wants their business and is capable of handling it. Smart, successful selling is just as much of an art or profession as is contracting, and the selling stage of our industry in all its phases is, for my money, here today.

The strategy or technique of sound design and cost refinement with subsequent better value to the purchaser brings to mind the experience of some of our people a couple of years ago, as they were going through the growing pains of organizing a selling activity. In a certain large city, with tremendous opportunity, there was the problem of physical coverage of such a vast market.

After looking this situation over carefully, it was decided that the only hope was to take on 25 carefully

## NATIONAL LOCK REFRIGERATOR HARDWARE



### Widely Preferred For All These Commercial and Domestic Uses

**Matched  
Sets**

**Beautiful  
Designs**

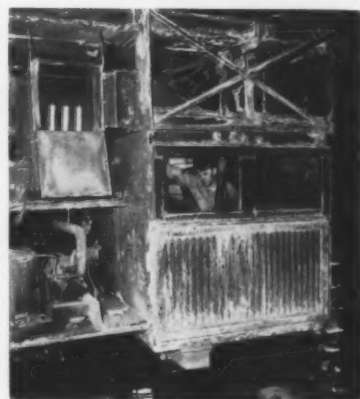
**Ease of  
Application**

Reach-In Cabinets. Display Cases. Back Bars. Draft Beer Equipment. Bottled Beverage Coolers. Stokers. Milk Coolers. Florist Boxes. Coin-Operated Refrigerated Dispensing Machines. Low Temperature Horizontal or Vertical Cabinets. Many Other Types of Refrigerating Equipment.

**Ask Your Jobber for Complete Information and Prices**



### THIS CRANE IS COOL



The air in this U. S. Metals Refining Co. smelter at Carteret, N. J., necessarily contains a certain volume of vapors and is usually at a fairly high temperature, but an air conditioning unit maintains cool, even temperatures within the crane cab shown here and an activated carbon "air recovery" installation bars the smelter fumes, thus giving the operator an almost ideal atmosphere in which to work. Access door has been opened and dust filter removed to show the carbon-filled canisters which soak up the gases.

selected men—men who voluntarily wanted to get into air conditioning because they saw its tremendous opportunity and future—men who had apparent aptitude for mechanical detail—and men who liked people and liked to talk to them.

After a comprehensive "weeding out" process, the 25 candidates were put through a six weeks' training course. The objective was to have these men sell package units only. At the end of the training period, each man was put on the street for a week and told exactly where to call. He was instructed what to say, up to the point where if the suspect turned out to be a prospect, he, the salesman was to cease and desist for the time being—later to return with a qualified and



experienced sales engineer. Jointly, they would survey the place, calculate the load, size up the equipment, and prepare the proposition for presentation and sale.

After two weeks of contacts with the experienced sales engineer, the trainee was turned loose on his own, anticipating from then on a minimum amount of help. Although some careful planning had been put into this program, at the end of twelve months, 24 of the 25 trainees had passed by the board.

#### EXPERIENCE IS A MUST

The great obstacle was that, in this large metropolitan area, there were so many complications and technicalities that no book knowledge, classroom training or any other academic procedure could possibly supplant the greatest teacher of all—experience. There were codes; there were acute problems of ingress and rigging to upper story locations; water problems of roof tanks, pumping obstacles, peculiar wiring problems, and many, many more considerations to be observed, analyzed and costed—and the new man just could not learn enough in the short period allocated to the activity to become self-sufficient.

The result was that the earnings of the group as a whole, coupled with the business booked by the company, still continued in a direct ratio to the number of its experienced men. Therefore, the great and crying need today continues to be for young men to come into the business, to learn it from the ground up.

#### WATCH COSTING CLOSELY

I would feel derelict if I didn't mention a matter of great expense to all air conditioning contractors which, to a degree, is unique in this air conditioning business. A well engineered job, accurately "costed" and reasonably priced that permits you to come out with the signed contract is the most profitable of all business.

The job in which there are "sloppy" figures, short margins, or errors of application or installation is costly, but the most distressing and expensive job of all is the one where a thoroughly capable engineer has put in hours, days, and sometimes weeks on designing and laying out a job, sketches in varying detail prepared, and finally upon submittal of the proposition to the client, the contract is awarded to the competitor. Just take a look at this—four, five or six contractors have had their people doing the same thing; and what a toll of manpower and manhours, when there is only one winner.

Does your 2% or 3% or whatever you add for engineering adequately compensate you for the engineering of jobs lost? I doubt it. This is about the only profession I can think of that will go ahead and do an appreciable amount of work with no absolute as-

surance of getting paid for it. Certainly no one would expect and rightly so, to get such valuable work done "for free" from an architect, a consultant, a medical diagnostician, an attorney, or any other professional.

How does one get maneuvered into such a position? What is the solution to this problem? Well, from a practical standpoint, it narrows itself down, I believe, to offering one's services to design the system at the early stages of the project with an advance understanding:

1. That there will be no extra charges above normal engineering fees if the contract is given to your company.

2. Or, if the job is awarded to a competitor, that certain fixed fees become due and payable.

This thing has been talked about for years, but there has been no joint action or united front to make it work. It seems to me that in this acceptance period of air conditioning which we all now have the privilege to enjoy, this is a subject so important that it deserves to be thoroughly "kicked around" in your conclaves.

**BUY FROM YOUR  
REFRIGERATION WHOLESALER**



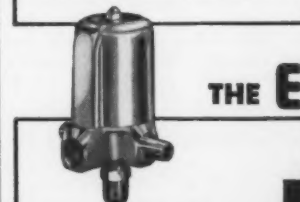
Type WP non-chattering direct-acting water regulator. Sizes  $\frac{3}{4}$ ",  $1\frac{1}{2}$ ", 2".



Type WK pilot operated regulator for heavy duty. Sizes 1",  $1\frac{1}{4}$ ",  $1\frac{1}{2}$ ", 2".



Type WJ pilot operated regulator for service requiring extremely large capacity. Sizes 2",  $2\frac{1}{2}$ ", 3", 4".



Type SL packless solenoid stop valve. Wide range of sizes.

## NOW *the excellent* Electrimatic valve line is being made still better

In plain terms the recent acquisition of the Electrimatic valve line by Jas. P. Marsh Corp. means that the finest of refrigeration controls are being made still better.

All of these well designed, well engineered controls are now being manufactured throughout in the new Marsh plant. As a result, the advanced design and engineering of the Electrimatic line is being given the advantage of greater precision in a plant that is manned and tooled for manufacturing equipment of the Electrimatic type.

A few of the Marsh-built Electrimatic controls are illustrated here. Note the popular Type WP condenser water regulator—a direct-acting piston type regulator for Freon, sulphur, and methyl. designed to operate smoothly without chattering. For heavier duty service there is the pilot operated Type WK regulator, and the Type WJ pilot operated regulator for services requiring a tremendous capacity.

The Marsh-built Electrimatic line also includes water regulators for ammonia service with high-pressure safety cut-out; temperature actuated suction throttling valves adapted to soda fountains and ice cream freezers; temperature actuated flow control valves; packless solenoid valves and other related controls. Ask for catalog covering your particular requirements.

## THE Electrimatic COMPANY

Sales affiliate of

JAS. P. **MARSH** CORPORATION

Dept. P. Skokie, Ill.

# Servicemen!

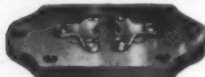
FOR MAXIMUM  
EFFICIENCY

USE

CHICAGO SEALS AND  
VALVE PLATES



Precision lapping, superior construction and simple installation make Chicago seals ideal for replacement.



Only Chicago valve plates have replaceable seats. Replacements for over 340 compressor models.

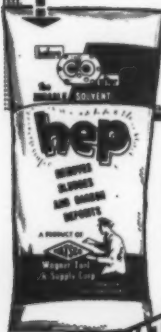
CHICAGO SEAL CO.  
122 S. HOYNE AVE. CHICAGO 12, ILL.

TRIAL PACKAGE!

hep

NEW Chemical Solvent...

SAVES  
90%  
of your  
TIME!



TO ALL  
SERVICE  
ENGINEERS...  
Act Fast to Get  
Your Trial Sample.  
Don't miss this opportunity to see for yourself... how "HEP" dissolves and loosens sludge and hard carbon crust, quickly and easily... in ONE to FIVE minutes.

WATSCO

Send 10c

You'll find "HEP" the greatest money and time saver, "The miracle solvent" for refrigeration service engineers.

Wagner Tool  
& Supply Corp.  
43-24 21st, L.I.C. N.Y.

FREE

NEW CATALOG  
Featuring our complete line of parts and tools for sealed units.



## LITERATURE

The publications listed below are available to readers without charge. Simply list on the postcard in this issue the key numbers of the items you wish to receive. Your requests will be forwarded directly to the companies concerned.

**B1—Duct Insulations** . . . A 12-page technical bulletin of design data on "Fiberglas" duct insulating materials. Includes sections on field application procedure and finishing of duct surfaces. Liberally illustrated with photos and diagrams. Available from Owens-Corning Fiberglas Corp.

**B2—Multi-purpose Rule** . . . A promotion sheet describing the "Versi-Rule," a handy pocket-size engineering tool combining the functions of beveled rule, slide rule, depth gauge, protractor, triangle, and square. Available from Dall, Inc.

**B3—Air Conditioning** . . . A bulletin (No. 112) issued by Niagara Blower Co. describing its "controlled humidity" method of air conditioning. Method is designed for industrial applications in food, drug and chemical fields. Bulletin includes flow diagram showing process by which air is dehumidified.

**B4—Splash-Proof Motors** . . . A bulletin issued by Sterling Electric Motors, Inc., describing its new "Klood" general purpose splash-proof electric motors. Outlines construction and performance features, describes other electric power drives produced by the company.

**B5—Driers and Filters** . . . A new catalog (R-8) issued by McIntire Connector Co. showing dimensions, ratings and parts on the latest line of DFN refrigeration driers, filters, strainers, moisture indicators, moisture control units and large tonnage driers up to 100 tons capacity.

**B6—Service Parts** . . . Catalog No. 15, issued by Wagner Tool & Supply Corp., listing and describing the replacement parts and tools in its current products line. Shown are external hermetic replacement terminals, check valves, inside replacement terminals, flapper valves, compressor vanes, float needles, Strain-O-Kap capillary tube and strainer combination, Magni-Chek magnetic check valve, and the new chemical solvent "Hep".

**B7—Engineering Data** . . . A new bulletin, "Cold facts for the Refrigeration Engineer", issued by Rex Engineering & Sales Co. Deals with losses in the refrigeration system and methods of correction. Includes helpful information on the effects of non-condensable gases, water and oil in the system, reduced heat transfer

and efficient operating pressures and temperatures.

**B8—Temperature Regulators** . . . A new six-page folder describing construction and operation of the Type E2T100 temperature regulator, available from Spence Engineering Co., Inc. Contains illustrations showing how the regulator is especially adapted for storage and instantaneous heaters, and explaining other features.

**B9—Refrigeration Fittings** . . . A catalog issued by Winn & Kuhn Co., describing and giving specifications of its SAE flare-type fittings, compression fittings, inverted flare fittings, pipe fittings, tools and other fittings in its line. The forged fittings are applicable to all standard uses in the refrigeration field. The company sells only to and through recognized refrigeration wholesalers. Tools described include a "Speedgrip" automatic wrench, tube cutter, and flaring tool.

### ASK YOUR JOBBER

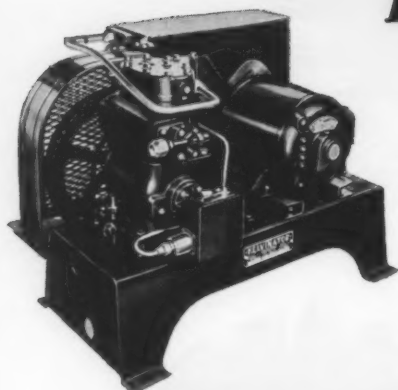
A new catalog now is available covering the "Watso" line of refrigeration parts and tools which are especially designed to cut the serviceman's problems, costs, and time to a minimum. Each item in the line is fully described and carefully numbered to simplify ordering. Ask your wholesaler for your copy of this catalog, telling him that you saw it mentioned in COMMERCIAL REFRIGERATION and AIR CONDITIONING magazine. If he does not have it, send your request directly to this magazine.

**B10—Hot Gas Defrosting** . . . A bulletin (Form No. DF-100) describing hot gas defrosting with the Patterson automatic defrosting system incorporating the Patterson "Slug Eliminator". Issued by the Patterson-Kelley Co. Tells how the system operates, and includes diagrams showing the system in normal and defrosting operations.

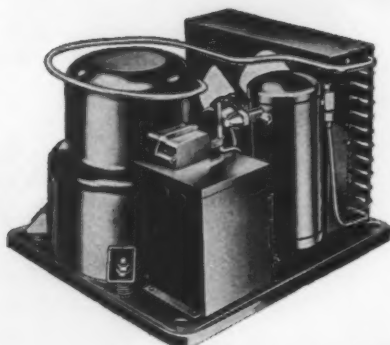
**B11—Pumps** . . . A catalog (Bulletin 53) just issued by the LaBour Co. describing and outlining construction and operating features of its Type G pumps, which are of the vertical, self-priming, centrifugal type. Catalog includes chart of parts, installation and maintenance instructions, operating information.

# ***Kelvinator***

## ***Pre-sells...***



Kelvinator Open Type Condensing Units ( $\frac{1}{4}$  H. P. to 1 H. P.)

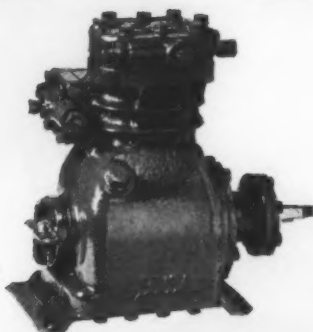


Kelvinator Sealed Type Condensing Units ( $\frac{1}{4}$  H. P. to  $\frac{1}{2}$  H. P.)



Kelvinator Water Coolers (Pressure and Bottle Types)

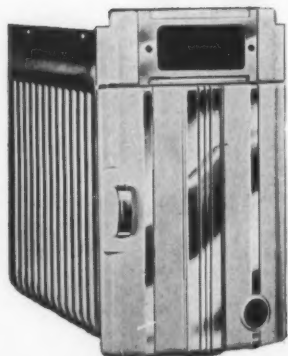
## ***Sells...***



Kelvinator Compressors (1/6 H. P. to 5 H. P.)



Kelvinator Silica Gel Driers



Kelvinator Stainless Steel Evaporators

## ***Re-sells!***

Sales-minded dealers with an eye for immediate and future profits are finding it pays to choose Kelvinator—the products with the name that *attracts . . . sells . . . and satisfies*. See the complete line of Kelvinator *quality* products at your nearest

Kelvinator Supply Depot. All types and sizes available for immediate shipment. Write, phone or stop in for helpful information on installation or service problems. Kelvinator, Division of Nash-Kelvinator Corporation, Detroit 32, Michigan.

**DEPEND ON KELVINATOR FOR ALL YOUR REFRIGERATION NEEDS**  
and AIR CONDITIONING • FEBRUARY, 1950

# NEW Products

For further information on any of these products, simply list on the postcard provided in this issue the key numbers of the items in which you are interested. Your requests will be forwarded directly to the companies concerned.

## Ice Cube Machine • • PB-1

**Product:** Fully automatic ice cube machine.

**Manufacturer:** Mills Industries, Inc., Chicago.

**Features:** New machine is said to use little more current than a house-



hold refrigerator. Powered by  $\frac{1}{8}$  hp condensing unit, can be plugged into any convenient outlet without additional wiring. Machine is fully automatic and produces solid, crystal-clear ice in length from  $\frac{1}{2}$ " to 6"; handy adjustment provides for making cracked ice. Produces about 5800 standard cubes per day, and bin holds 200 lbs. Thermostat control regulates ice cube production to keep bin filled. Fresh water used, being fed to ice making tubes from water supply system. No water storage tanks required. Machine is 66" high, 30" deep, 30" wide; height to storage compartment is 40". Company claims new simplification of design makes it unnecessary to have moving parts for sizing, releasing, crushing or delivery.

## Beverage Cooler, Bar • • PB-2

**Products:** Fogel-Aire beverage cooler and club bar (combination bottled and draft beer cabinet).

**Manufacturer:** Fogel Refrigerator Co., Philadelphia.

**Features:** Both units have "Fogel-Aire" system of refrigeration, claimed to provide ultra-fast cooling. Beverage cooler is available in 4, 5, 6 $\frac{1}{2}$  and 8-foot lengths, with capacities of 23, 31, 38, and 44 cases of 6-ounce bottles, respectively. Club bar is designed to give more space when it is needed. Interchangeable arrangements allow draft and bottle compartments to be altered to meet varying demands. Available in 5 and 8-foot lengths, club bar has a draft station located at each end of cabinet so two people can work at same time.

## Frozen Food Case • • PB-3

**Product:** Model 1407 frozen food display case.

**Manufacturer:** Koch Refrigerators, North Kansas City, Mo.



**Features:** Back-lighted translucent signs are set in canopy above display, and canopy is shaped so that signs can be read from in front or either side. Full-length illuminated mirror is set at an angle above display, to reflect and magnify contents. Full length illuminated price tag rail; full length glass display front made up of four panes of quarter-inch glass sealed into one unit. Special devices used to reduce fog and condensation. Top of front display glass is 39" from store floor; top of display is about 7" below rim of glass. Case is powered

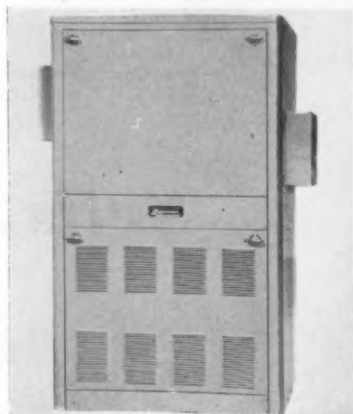
by  $\frac{3}{4}$  hp machine; seven plate coils (dividers) give maximum prime surface, and an eighth plate coil, located at back of case at an angle above display, keeps top layer of packages cooled by radiation and collects frost before it reaches divider plates. Condensing unit located for easy servicing, and is of pull-out type with flexible lines. Thermostatic valve, dehydrator and temperature control also located for accessibility and service. All-steel cabinet construction, stainless steel trim; 4" fiber glass insulation throughout.

## Residence Cooler • • PB-4

**Product:** L-310 residence cooler.

**Manufacturer:** General Refrigeration Div., Yates-American Machine Co., Beloit, Wis.

**Features:** Designed to make pos-



sible air conditioning of average size home at moderate cost. Operates through duct work of a blower type warm air furnace, saving expense of extensive remodeling and structural changes. Unit is placed in basement, out of the way and convenient to water and electrical connections. Cooling coils are four rows deep for maximum cooling and dehumidification. All air, outside and recirculated, passes through cleanable-type filters, is forced through ducts by large capacity blower. Compressor is reciprocating, heavy-duty 3 hp Lipman unit, and machine section is soundproofed for extra quietness.

## Sectional Walk-Ins • • PB-5

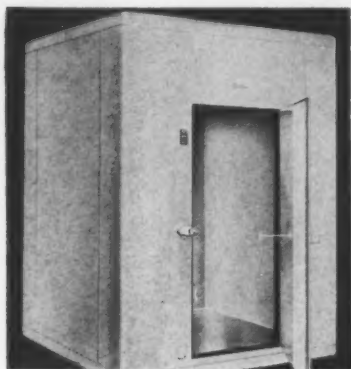
**Product:** Sectional walk-in coolers for both high and low temperature use.

**Manufacturer:** Jordon Refrigeration



tor Co., Inc., Philadelphia.

**Features:** Normal temperature models have 4" fiber glass insulation, low temperature models 6", vapor sealed. Standard cooler heights are 6'6" and 8' with standard wall, door, ceiling and floor sections measuring 3'10". Corner posts with full radius corners are used, and all sections are



attached to each other with simple lag bolt pod assemblies. Wrench is only installation tool needed to erect coolers. Framing is of kiln dried tongue and groove lumber; cooler sections have galvanized metal interiors and polished aluminum exteriors. Use of standard size, easily erected sections makes it possible to move cooler from one location to another or to be expanded in size as user's requirements grow. Wide variety of shelving and rails are available for storage of all types of products. Doors and interior light included on all models; solid or glass insert doors available. Normal temperature models have self-contained refrigeration system mounted on standard size wall panel, requiring only normal checking and plug-in. Low temperature units use Kramer Thermobank, require field installation. Both 6'6" and 8' high models available in 6' and 9'10" widths and varying lengths from 6' to 25'2" or longer.

#### Home Freezers • • • PB-6

**Product:** New line of home freezers.

**Manufacturer:** Sanitary Refrigerator Co., Fond du Lac, Wis.

**Features:** Each model has separate compartment for fast freezing; metal food baskets included with each unit at no extra cost. Wrap-around cabinets are all-steel with white bonderized finish. Hardware trim is tailored and simple, designed for easy

## NEW HEAVY DUTY BEVERAGE COOLERS SHOW WHY JORDON

### IS A LEADER

—ready for immediate delivery. And they've got the **FEATURES**, the **QUALITY**, and the **PRICE RANGE** to give you fast turnover and a good profit margin.

**SELF-CONTAINED or REMOTE MODELS**



### STAINLESS STEEL or Metallic Green Exterior

Plus Many Outstanding Features

- ★ Popular sizes: 4'6". 6'3". 8'1". Capacities: 12 to 37 cases of 12 oz. bottles.
- ★ Large blower fan and heavy duty coils give fast, positive, dry cooling.
- ★ Wider top opening allows fast bottle stacking and easy access to contents.
- ★ Pull-out unit (illustrated), simplifies service.
- ★ Easy-quick cap dispenser simplifies cap disposal.
- ★ Available with Panelyte bar top (illustrated). Makes a serving bar.
- ★ 5-YEAR WARRANTY ON HERMETIC UNITS

#### NEW UPRIGHT STORAGE FREEZER 18 cu. ft. capacity

Three compartments with separate doors. For FAST FREEZING and STORAGE of frozen foods. JORDON Auto Enamel White exterior, Aluminum finished interior. SIZE: Height 70 3/4". Width 44". Depth 28 1/4".

Write For Complete Catalog and Price Lists.



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#### FULL VISION CASES

TRIPLE-DECK DISPLAY CASES

REACH-INS

2-TEMP REFRIGERATORS

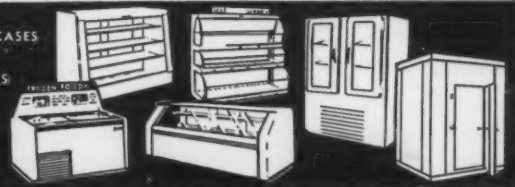
FREEZERS

MERCHANDISERS

BEVERAGE COOLERS

DISPLAY CASES

WALK-INS







cleaning plus beauty. Fiberglass insulation used. Powered by heavy-duty

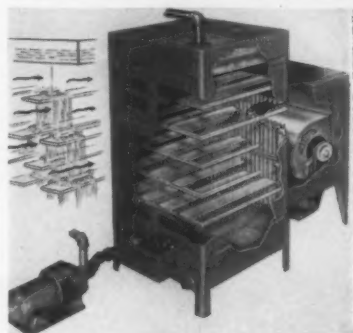
hermetic units. Table-top lids designed for easy opening; cabinets only 27" deep, making foods readily accessible. Largest model has 16.8 cu. ft. storage space (825 lbs.), and 1.76 cu. ft. fast freezing section. Retail price is \$459.95. Smallest model is 8.27 cu. ft., holds over 400 lbs. of food, and retails at \$279.95.

#### Cooling Towers • • • PB-7

**Product:** New type "E" induced draft cooling towers.

**Manufacturer:** Binks Mfg. Co., Chicago.

**Features:** Designed for use with small "packaged" water cooled air conditioning and refrigeration condensing units. Eliminate use of nozzles and all internal piping, yet provide



good cooling capacity. Units shipped assembled except for air propulsion unit, which is separate. Constructed of galvanized steel throughout; available in wide range of capacities. In operation, water from refrigerating unit condenser is delivered to a water diffusion pan on top of tower, enters cooling chamber of tower through perforations in floor of pan. Cascade type deck surfaces in tower break fall of water, causing filming action. Slow speed blower draws air through tower, setting up air-to-water contact; air is exhausted through zigzag three-pass eliminators which prevent drift from entering blower chamber. Units can be installed either outside or indoors. Separate motors provided for blower and water circulating pump. Low installation and operating costs claimed as a feature. Detailed specifications outlined in Binks Bulletin 42.

## ROTARY SEAL



## REPLACEMENT UNITS

For all makes and sizes of Commercial, Semi-Commercial, Air Conditioning, and Household Refrigerator Compressors. ROTARY SEAL Units are known throughout the world for . . . *Simplicity in Construction . . . Ease of Installation . . . Efficiency of Operation . . . Economy.* The original time-tested, precision-built replacements — 18 years of service.

**MORE THAN  
848  
MODELS**



**AT ALL  
LEADING  
JOBBERs**

"Seal with

Certainty!"

**2020 NORTH LARRABEE STREET  
CHICAGO 14, ILLINOIS, U.S.A.**

CANADIAN AGENT: 2025 ADDINGTON AVENUE  
MONTREAL 28, QUEBEC, CANADA

#### Self-Serve Cases • • • PB-8

**Product:** New 1950 models of double and triple deck self-serve dairy display cases.



**Manufacturer:** Sherer-Gillett Co., Marshall, Mich.

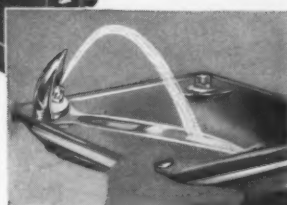
**Features:** Models (2806 and 2906) are so designed that they may

# Sell the Leader...Sell Westinghouse!



**New!**  
**COMPARTMENT-TYPE COOLERS**  
**3 TEMP...WITH Magi-Trol\***

\*Trade-Mark



**POURS**... Dependable service for plenty of refreshing water at just the right temperature... a versatile 3-way Cooler that outperforms, outperforms any cooler of its kind now on the market.



**STORES**... Keeps 29 beverage or 40 half-pint milk bottles ice cold! You'll find prospects everywhere: private homes, hospitals, small biological laboratories and scores of other places.

...of course, it's Electric

There's a big market for this versatile and convenient 3-Way Westinghouse Cooler... available in either a Pressure Cooler (as illustrated) or a Bottle Cooler. Both models *pour, store and freeze* in less space than normally occupied by conventional coolers!

The exclusive 3-Temp with *Magi-Trol* insures three different temperatures: water at 50°F, a spacious ice cube and freezer compartment at below freezing temperature, and a roomy refrigerated storage space at 35-38°F. The *Magi-Trol* automatically maintains the desired temperature for each function. You'll find these new Westinghouse Coolers will be tops for quick sales, easy sales, many sales.



**FREEZES**... And keeps 3½ pounds or 28 ice cubes ready for instant use! Freezer unit with shelf and trays removed, is large enough to store 3 pints of ice cream.

**WESTINGHOUSE ELECTRIC CORPORATION**  
Appliance Division • Springfield 2, Mass.

**YOU CAN BE SURE..IF IT'S**  
**Westinghouse**

For further information call your Westinghouse Distributor or mail this coupon to Westinghouse Electric Corporation, Springfield 2, Mass.

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State \_\_\_\_\_

2CRAC



**Bend it any way you like**  
(It's uniformly dead-soft)



**Dry as a bone inside**  
(Special mechanical end seal sees to that)



**H**ERE is the tube that meets *all* of your exacting requirements.

Being uniformly dead-soft it can be bent with the hands with little effort. Precise, mechanical sealing at each end of the tube, assures you of a tube that is dry throughout its entire length.

And because the seal has the same diameter as the tube it will pass through any opening large enough for the tube itself. Another feature you'll like is that Dryseal Tube, because of the ductility and soft temper of the copper used, does not split on the end when flared for compression fittings.

Dryseal is made to new, more economical dimensional standards with tube sizes from  $\frac{1}{4}$ " to  $\frac{3}{4}$ " O.D. It comes neatly packed; two 50-foot coils to the carton. Carton is attractively designed so that it is easy to identify in stock.

All of which makes for an easier, faster, trouble-free, quality installation.

Ask your distributor about Dryseal next time you order refrigeration tube. He has Dryseal and will give you prompt delivery.

**REVERE**

**COPPER AND BRASS INCORPORATED**

*Founded by Paul Revere in 1801*

230 Park Avenue, New York 17, New York

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.;  
Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.  
Sales Offices in Principal Cities, Distributors Everywhere

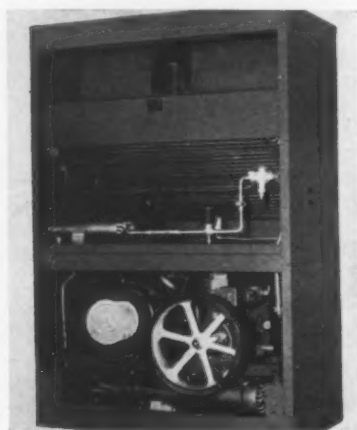
be joined in six-foot units for continuous display of any desired length. It is claimed individual cases will operate satisfactorily in a 90 F room using only  $\frac{1}{2}$  hp condensing unit. Operating efficiency and economy is said to be obtained through company-developed coiling and diffusing principles, in which air circulation is broken up and flow is regulated as to speed and direction by a series of "atomizers" located at rear of display section. Return air ducts assure adequate refrigeration for each shelf.

#### Air Conditioner • • • PB-9

**Product:** New 15-20 ton packaged air conditioning unit.

**Manufacturer:** Typhoon Air Conditioning Co., Brooklyn, N. Y.

**Features:** Makes possible application of packaged air conditioning to virtually all sizes and types of



buildings, company says. Large buildings can be conditioned by using several of the units, and smaller indoor arenas and similar locations can be air conditioned with one 15 or 20 ton unit, without ducts, taking advantage of special plenum chamber which allows, 1, 2, 3 or 4 way discharge. Theaters and chain stores are expected to be a prime market for the units. Added feature is that ducts can be connected either to top or to back, depending upon whether vertical or horizontal discharge is required. Ceiling height of only 8 feet will clear top of cabinet. Used in multiple, the units allow application of "zone control" to larger buildings than has been possible before, company says. Typhoon packaged line now ranges from  $1\frac{1}{2}$  ton console to 20 ton unit.

#### Recirculating Pump • • PB-10

**Product:** New Air-O-Line hermetically sealed recirculating pump.

**Manufacturer:** Thomas Beckett & Co., Inc., Dallas, Tex.

**Features:** Pump was brought out specifically for evaporative cooler market, but is not limited to this type application. It is adaptable to such applications as cooling pumps for machinery, sump pump, milk coolers, bottle drink dispensers, display fountains, and others. A compact unit, it delivers large volume of water at



various heads, from no head to 8 feet. Motor is wound specifically for this

## THE MOTOR SPEED... THE MOTOR H-P RATING

**...are all you need to know**

**to select a safe, long-lasting Sprague motor capacitor replacement.**

One glance at the motor nameplate and the simple tables in Sprague's Handy Guide To Motor Capacitors tells you the proper capacitor for practically all replacement jobs.

These time-saving tables are yours in two sizes—Sprague Guide C-900, a handy wall chart for the shop, and Guide C-901, a spiral-bound folder for pocket, tool kit, or work bench. Both have a greaseproof finish. These Guides are free. Write for yours today.

**SPRAGUE PRODUCTS COMPANY**  
53 MARSHALL STREET NORTH ADAMS, MASS.

# SPRAGUE CAPACITORS





type of use, is entirely sealed in oil inside solid brass housing. All parts are solid brass, nickel plated, with stainless steel motor shaft; rubber bumpers provides for quiet operation. Pump operates either partially or completely submerged.

#### Frozen Food Cabinets • PB-11

**Product:** Three new models of frozen food cabinets.

**Manufacturer:** Howard Refrigerator Co., Inc., Philadelphia.

**Features:** Models are available in standard 12, 16 and 24 cu. ft. sizes, and with 18" superstructure as optional equipment. Superstructure cabinets have three-dimensional pictures in full color. Sliding doors are hermetically sealed, glazed in stainless steel frame. All models have 5" fiber glass insulation. Cabinet dimensions: 12-foot (59 x 36 x 29"), 16-foot (71 x 36 x 29"), 24-foot (100 x 36 x 29"). Gross capacities of cabinets range from 380 to 975 12-ounce packages.

## Who's trying to tell you how to run your business?

Doesn't matter who it is... because we're going to give your business back to you through the usAIRCO DIRECT-TO-DEALER FRANCHISE for the complete line of usAIRCO packaged refrigerated air conditioning units. We want you to have all the profits... not have to share it with distributors and middlemen. We want you to be able to quit sweating to meet ridiculous quotas... quit having to overload your inventory because somebody else wants to make a showing.

We have an idea that's exactly what you want, too.



If it is, read below what our usAIRCO DIRECT-TO-DEALER FRANCHISE offers you... then write on your business letterhead to the address below for the book that tells the whole story.

### HERE'S WHAT YOU WANT... HERE'S WHAT WE DELIVER

**1. More Profits.** All the profit is yours. By dealing direct with the manufacturers you eliminate distributors and middlemen of any kind.

**2. Business Security.** You run your business your way... you have no arbitrary quotas to meet.

**3. Freedom-to-Buy.** You're never urged or pressured to carry more inventory than you need to handle your volume.

**4. Accepted Products.** You sell the products of a company that's pioneered nearly every major advance in air conditioning design.

**5. Strong Warranties.** All usAIRCO store and room units of 5 tons or less are pro-

tected by a five year warranty that guarantees replacement and installation of faulty compressor parts at absolutely no cost to you or to your customer.

**6. Practical Sales Help.** You'll get advertising cooperation, and direct personal selling help from our field representatives.

**7. Engineering Counsel.** The whole usAIRCO application engineering staff is ready to help you on any sort of air conditioning installation.

**8. Financing Assistance.** Through a large national financing company, usAIRCO can arrange financing plans for installment purchases. You are protected against credit losses.



Write on your letterhead.

**UNITED STATES AIR CONDITIONING CORPORATION**

3373 Como Avenue S. E., Minneapolis 14, Minn.

#### Water Coolers • • • PB-12

**Product:** Two new compartment-type water coolers.

**Manufacturer:** Westinghouse Electric Appliance Division, Springfield, Mass.

**Features:** Both coolers provide 50 F water for 25 to 30 persons; a



refrigerated (35-38 F) storage space for food, beverages or pharmaceuticals; and a freezing unit which produces 3½ lbs. of ice per freezing. Capacity of storage compartment is up to 40 half-pint milk bottles or 29 beverage bottles at one time. New "Magi-Trol" control enables coolers to maintain three desired temperatures in water cooling chamber, freezer and refrigerated space independently of each other. Coolers are provided with full-hinged door and lock-type, snap catch. Units are powered by hermetically sealed refrigeration system with five-year guarantee. Coolers designed for use in private or executive offices, and similar locations.

#### Air Purger • • • • PB-13

**Product:** New air purger for refrigeration systems of 50 tons capacity.

**Manufacturer:** Rex Engineering Sales Co., Oklahoma City.

**Features:** New product, called the Midget, is said to increase efficiency of compressors, increase capacity of tonnage, reduce power costs. Head pressure is reduced, and non-condensable gases are purged from system. Unit so constructed that it insures continuous uninterrupted operation; has large storage capacity in which foul gases are collected. May be installed close to receiver or at any convenient place in plant.



## SEEGER PROFITS DROP

Net earnings of Seeger Refrigerator Co. in the three months ended Nov. 30, 1949, were \$401,028 after provision for federal income taxes, compared with \$1,018,837 after taxes in the corresponding quarter of the preceding year, it has been announced. The figures are subject to independent audit and year end adjustment.

The 1949 quarter's earnings were equal to 36 cents a share on 1,100,000 shares of common stock outstanding, compared with 93 cents a share on the same number of shares in the like three months a year before.

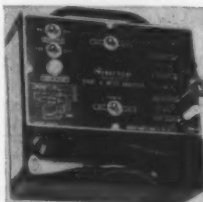
Gross sales in the three months of 1949 were \$9,799,120, as against \$18,313,131 in the same quarter of 1948.

## NEW CROSLLEY BRANCH

Crosley Dis., Avco Mfg. Corp., has established a new regional sales office and a distributing branch in St. Louis. The distributing branch, located at 3228 Locust, will be managed by William J. O'Brien, formerly regional representative in Providence, R. I. Bruce Morehouse will head up the new regional office, located at 317 North 11th St.



- Portable Evacuators
- Hermetic Fans
- Starting Relays
- Sling Psychrometers
- Thermo Control Testers
- Weighing Units
- Test Cords
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START-O-METIC ANALYZER,  
110-220 VOLTS

Switch controlled range gives fast positive voltage selection. Capacity selection 80-120-240 mfd. Available in dual voltage. May be used in combination with Volt-Ammeter Unit.

## A Great Combination!

Universal Volt-Ammeter and Start-O-Metic Analyzer

Two Instruments in One!

110 and 220 volts



Unique wiring circuit provides universal circuit selection for every make of unit and motor. Reverses motor rotation. Checks windings for continuity and shorts. Starts split-phase and capacitor motors and units without other components.

### A. C. VOLT-AMMETER

Precision dual range instrument, complete with analyzer receptacle and test leads. Push-button control gives fast positive selection from 0-150 to 0-300 volts and 0-5 to 0-25 amps.



SEE YOUR JOBBER OR FOR MORE "KNOW-HOW" WRITE

**AIRSERCO** MANUFACTURING CO., INC.  
PITTSBURGH 13, PA.

# SALES POSSIBILITIES EVERYWHERE

The complete Tyler line of welded-steel Commercial Refrigerators and Display Cases meets all requirements of food stores, markets, super-markets, hotels, restaurants, tav-

erns, bakeries, florists, cafeterias, colleges, diners, drugstores, delicatessens, hospitals, institutions—anywhere perishables are stored or sold. Tyler Fixture Corp., Niles, Michigan.

Tyler Open Meat and Dairy Cases

Tyler Open Vegetable Cases

Tyler Meat Display Case

Tyler Open Three Shelf Meat and Dairy Cases

Tyler Dairy Case

Dry-Kold Beverage Cooler

Airline Shelving

Tyler Frozen Foods Display Case

Tyler Reach-In Box

Tyler Walk-In Cooler

Tyler Wall Dairy Box

Tyler Florist's Refrigerator

TYPICAL TYLER CASES

**TYLER**  
FOR FOOD REFRIGERATION

the Right Capacitor with  
the Right Housing means

# FASTER JOBS

## THE AEROVOX JIFFY WAY

### MOTOR CAPACITORS



Yes, it's **FASTER** the Aero-  
vox Jiffy Way, because:

It's easier to pick the right replacement with the Aerovox up-to-date listings. Ultra-compact round-can Universal types have screw terminals — don't bother with soldered connections. Aerovox hardware — housings, end caps, mounting brackets — means quicker, neater jobs. And you get that refrigerator motor started in jiffy time.

All adding up to **FASTER PROFIT** for you — and **LASTING PROFIT** too because there are no return calls "to make good."

Ask your supplier or write us for latest literature. Count on that local stock for your urgently needed capacitors.



**FOR RADIO-ELECTRONIC AND  
INDUSTRIAL APPLICATIONS**

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## COOLING COIL SELECTION DISCUSSED BY ROOKS

In central air conditioning systems, the use of chilled water permits maximum flexibility in design and operation, though there are many applications, such as in theaters involving relatively few coils, where direct expansion coils can be used to advantage. This opinion was expressed by H. Corbyn Rooks, head, heat transfer division, Trane Co., at a recent meeting of the Illinois Chapter, American Society of Heating and Ventilating Engineers.

In a talk dealing with practical aspects of cooling coil selection, Rooks stressed the fact that there is a limit to direct expansion coil pressure drop and that proper selection of the expansion valve is important. A valve which is too large will pass slugs of liquid and a valve which is too small will cause excessive superheat. He defined excessive superheat as 12 to 15 deg.

For fairly large sized air conditioning jobs he recommended an equalizer connection on the expansion valve. Sounding a note of caution, the speaker warned against using multi-

ple expansion coils having long runs and connected to a common compressor. This practice, he said, invariably results in trouble.

Three basic methods of coil selection commonly used, said Rooks, are the sensible load ratio method, the total load method employing a wetted surface factor, and the method of the Blast Coil Manufacturers Institute. While the latter was said to be theoretically more correct over a wide range of conditions, the calculations are involved. In his opinion, any one of the methods will give satisfactory results if proper factors are used.

In regard to the much debated question of economical coil depth,

## BOOK REVIEW

**Title:** Welding and Cutting Manual.  
**Publisher:** Linde Air Products Co.,  
New York City.  
**Price:** \$1.80.

This new handbook on the oxy-acetylene process should be useful as a reference and instruction book for anyone who does welding and cutting. The style is simple and easy to read and instructions are given in step-by-step photographs of actual repair jobs.

While the book is written especially for the repairman, farmer, garage mechanic, and maintenance man there are hints, short-cuts, and instruction material which will help any welding operator do a better job. For example, Chapter 10 shows over 100 time and labor-saving things to make. There are detailed plans for making machinery guards, trailers, shop and kitchen stools, benches, tools, and picnic grills.

Other chapters give short-cuts and instructions for bronze-welding; fusion welding; soldering, hard-facing; cutting steel and cast iron; heating, forming, and straightening metals; welding and cutting pipe; and welding non-ferrous metals.

The appendix contains useful charts and tables, a complete glossary of welding terms, and a list of 100 repair jobs with recommended welding methods.

Manual measures 6 x 9 inches and contains 208 pages.

*clean  
up  
with*

# QUICKEE

America's  
fastest-acting, fastest-selling  
**WATERLESS HAND CLEANER**  
made with  
gentle Lanolin  
fortified with  
Cholesterol

Removes  
grease, grime,  
paint, tar, mas-  
tics, etc. without  
water. Just rub  
it on and  
wipe it off!

For your own  
use or for  
re-sale get  
**QUICKEE**  
and **CLEAN UP!**

**TUDOR**  
CHEMICAL  
SPECIALTIES, INC.

the speaker suggested a minimum of four rows for chilled water and direct expansion coils and six rows for well water coils. He stated that air leaving a direct expansion coil of four, six or eight rows will probably have a relative humidity of 85, 90, or 95 percent respectively.

In closing his talk, Mr. Rooks condemned the use of a flooded coil with "Freon" as too tricky.

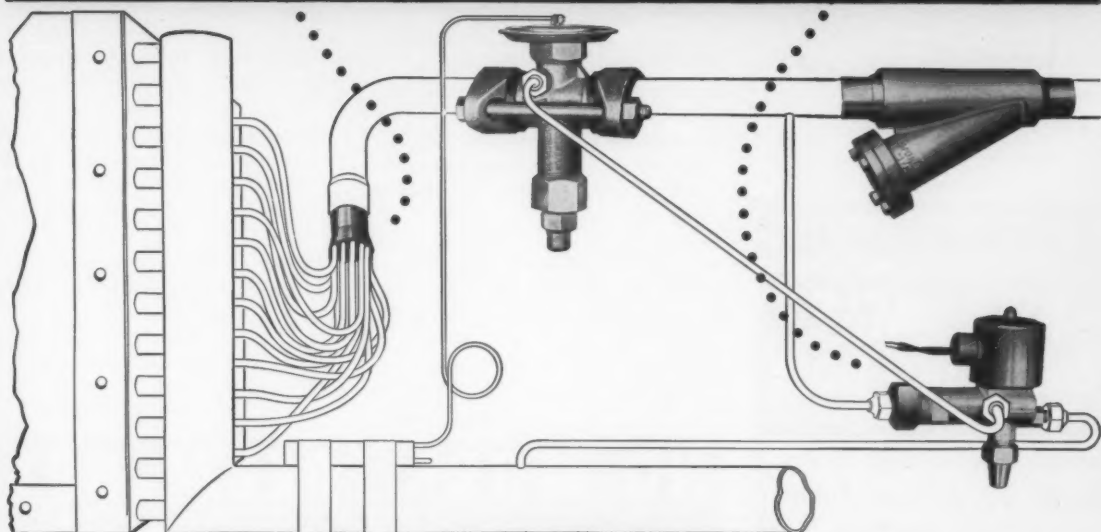
# SPORLAN AIR-CONDITIONING CONTROLS

*combine*

EFFICIENCY

PEAK PERFORMANCE

ECONOMY



## REFRIGERANT DISTRIBUTORS

- Economical to Install
- Assures Equal Distribution
- Capacity Balanced to Load by Means of Interchangeable Nozzle
- Available as Separate Device to Permit Use of Standard Valves
- Provides Maximum Coil Efficiency

## THERMOSTATIC EXPANSION VALVES

- Flare, Sweat or Flange Connections
  - All Parts Accessible for Cleaning or Inspection
  - From 1/2 to 50 Tons Freon
- The Only Thermostatic Expansion Valves with Selective Charges*



## SOLENOID PILOT CONTROL

- Tighter Closing than Ordinary Solenoid Valves
- Economical to Install
- One Size Fits All Jobs
- Costs No More than a Ten Ton Solenoid Valve Regardless of Load
- Positive Liquid Line Shutoff

## STRAINERS

- A Complete Line for All Purposes

# SPORLAN VALVE COMPANY

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## The World's Most Efficient CONCRETE DRILL

### THE TILDEN ROTARY KONKRETE KORE DRILL



gives lowest cost per foot of concrete drilled because it:

- Drills at 2 to 6 inches per minute
- Drills reinforcing bars and beams in concrete
- Drills up to 30 feet of concrete without resharpening
- Gives straight, clean holes for anchors, conduit, etc.
- Uses ordinary electric drill

Quiet cutting action gives minimum disturbance of surrounding activities.

Tilden drill bits are available in standard sizes of from 1/4" to 4" diameters. Quotations on larger sizes on request.

Write today for catalog

with complete details on these revolutionary concrete drill bits.

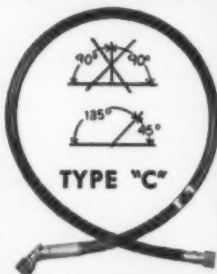
**TILDEN TOOL MANUFACTURING COMPANY**  
1293 NO. FAIR OAK, PASADENA 1, CALIFORNIA

## NEW ANGLE CHARGING HOSE

WITH 45° "E-Z-FLO L-BO"

Flexible, double-angle access,  
durable . . . yet Low Priced!

only  
**\$230**  
each  
Dealer  
Net



- Offers two angles of approach, 45° and 135°. Easier access, less flow resistance 36" rayon-reinforced refrigerant-resistant neoprene hose withstands pressures of 1000# psi. 1-piece flare construction, coil spring support, fingertip "Rapid" Coupler.

Your Wholesaler has Types  
A & B charging hose, too!

**Fine PRODUCTS CO.**

185 N. WABASH AVE. • CHICAGO 1, ILL.

## OPPORTUNITIES

(Classified Advertising)

Rates: for "Positions Wanted," \$4.00 minimum, limit 25 words. For all other classifications, \$4.50 minimum for 25 words or under, each additional word 15c; boldface type or all capitals, \$7.50 minimum for 25 words or under, each additional word 20c. Box addresses count as five words, other addresses by actual word count. All advertisements in this section are payable in advance.

### POSITIONS WANTED

Carefully selected group of trained men, graduates of reliable and well established trade school, now available to fill positions in the Radio or Refrigeration field. Willing to travel anywhere. Why not fill that vacancy with an efficient and reliable man. Write Eastern Technical School, 888 Purchase Street, New Bedford, Mass.

### YORK SALES SLACKEN

York Corp. reports that completed sales in the year ended September 30 amounted to \$50,008,257 compared with \$56,494,430 in the previous year, according to president S. E. Lauer.

He stated that earnings after provision for taxes were \$1,617,179 compared with \$3,150,862 in the fiscal year of 1948. These 1949 earnings were equivalent to \$10.11 per share of preferred stock and, after provision for preferred dividends, to \$1.35 per share of common stock.

Lauer pointed out that lower sales during the year were common to the

air conditioning and refrigeration industry. "This situation as it affected us, coupled with price reductions we made voluntarily on certain of our product lines in order to clean out inventories to make way for new 1950 models, plus our concentration and expenditures on engineering research, product development and distribution, resulted in our lower earnings for the year," he explained.

"Thirty-one new products, defined by types and sizes, were completed by our development department and cleared for production in 1950," Lauer stated.

### CUTLER-HAMMER NAMES NEW MIDWEST AGENT

Cutler-Hammer, Inc., Milwaukee, has announced appointment of R. T. Smith & Sons, Tecumseh, Mich., as central refrigeration sales representatives.

Midwestern regional sales agent for Tecumseh Products Co., R. T. Smith & Sons will handle the complete line of Cutler-Hammer replacement controls.

Offices of the new representative are located at 141 Smith St., Tecumseh, from where they will cover territory formerly under the supervision of six Cutler-Hammer district offices in the midwest area.

## NO MORE FREEZE-UPS of expansion valves or capillary tubes!

**ICE-X** works like magic  
SERVICE MEN SAY: "ICE-X IS GREAT!"



When ice forms in expansion valves or capillary tubes, ICE-X is a sure remedy . . . ICE-X is non-corrosive—harmless to parts. An ice-eliminator that can't be beat for Freon, Carrene, or Methyl Chloride systems . . . Order from your jobber. If no jobber, order direct.

Service doesn't falter  
when it comes from Harry Alter

Jobbers: Ask for special offer!

**The HARRY ALTER CO.**

Exclusive  
ICE-X  
Distributor

1728 S. Michigan Ave. Chicago 16, Illinois





## ABOUT PEOPLE . . .

Continued from page 39

Webb also represents Betz Corp. in this area. He will make his headquarters at 4336 El Campo Ave., Fort Worth, Tex.

**Allen B. Harvey**, formerly with Kerotest Mfg. Co., has been appointed eastern sales manager for refrigerents by Eston Chemicals, Inc. Harvey has established headquarters at 60 East 42nd St., New York City, and will have direct charge of sales in the area. Eston Chemicals is a manufacturer and national distributor of low pressure refrigerants, including methyl chloride, sulfur dioxide and "Freon".



**August F. Ulbert**, a vice president of Alco Valve Co., died suddenly of a heart attack in his St. Louis hotel room on Dec 8. Ulbert had been a veteran member of the company since he joined its sales department in 1933 and had been for years manager of the eastern sales division with offices in New York City. He was in St. Louis on a brief visit to the company's home office at the time of his death.

**Charles J. Coward** has been named merchandising manager of



Coward



Bonning

Kelvinator, and will be responsible for all merchandising activities on Kelvinator household products and the overall advertising and sales promotion program for the Kelvinator division. **J. C. Bonning**, assistant director of advertising and sales promotion, has been named advertising

## A New Addition to the Krack Parade



### A COMPLETE NEW LINE OF EVAPORATIVE CONDENSERS

Available in nine sizes from 5 to 50 tons.

Constructed of heavy gauge welded steel, hot-dipped galvanized after fabrication.

A quality product, carefully engineered, and competitively priced.

Write for Bulletin 2150

## Refrigeration Appliances, Inc.

923 W. LAKE ST.  
CHICAGO 7, ILL.

Manufacturers of Refrigeration and Air Conditioning Lowside

Unit Coolers  
Comfort Coolers

Gravity Coils

Freezing Units

Air Conditioning Units and Coils

## PERMAGUM



### THE PERFECT READY-TO-USE SEALING COMPOUND

For Refrigerators, Freezers,  
Ice Cream Cabinets

2 1/2 pound package **85¢**

BUY IT FROM YOUR WHOLESALE

Distributed by  
**VIRGINIA**  
Smelting Company

West Norfolk • New York • Boston • Detroit

### HINCKLEY & SCHMITT

Patented and Qualified "Water" Distributors  
Chicago, Ill.  
Established 1904

"definitely a time saver"  
"very simple to adjust"  
"performance very satisfactory"

—so writes Frank Kloss, Service Supervisor of Hinckley & Schmitt, "World's Largest Water Distributors."

### NEW ALLIN

#### CAPILLARY TUBE

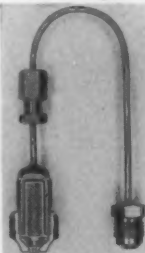
Easy external adjustment—for ALL refrigerants—on any job from 1/4 H.P. to 1 H.P.

Large area 150 mesh Monel screen protects orifice against clogging.

Straight-through design provides accurate means of metering refrigerants

ASK YOUR WHOLESALE or write direct for additional information and prices.

Export Division: Kelvinator Export Division, 14250 Plymouth Road, Detroit 32, Michigan.



### ALLIN MANUFACTURING COMPANY

1153 West Grand Ave., Chicago 22, Ill.

# YOUR TIME IS MONEY!

## Streamline LINE VALVES

CAN BE DIS-ASSEMBLED  
AND READY TO SOLDER  
INTO LINE IN 10 SECONDS



- NO BOLTS!
- NO GASKETS!
- NO FLANGES!
- NO WRENCHES!
- NO EXCESS WEIGHT!



### YOU wanted these Advantages in a Line Valve—

**TIME SAVING:**— Easily disassembled before soldering. Entire operating unit consisting of stem, collar and bonnet removable in one piece.

**SAFE:**— Should the bonnet be removed from the valve with pressure in the line, the "O" ring reaches the counter-bore, allowing the pressure to be relieved through the vent holes before the threads disengage.

**POSITIVE SEALING:**— The use of the "O" ring between the stem assembly and valve body of this STREAMLINE Packed Refrigeration Line Valve provides a permanent, positive seal against loss of refrigerant, and also prevents infiltration when operating in vacuum.

**LIGHTER IN WEIGHT:**— Revolutionary design eliminates flanges, bolts and gaskets.

**BODY:**— Actual full flow design—Material...close grain red bronze.

**STEM AND DISC HOLDER:**— Two-piece, full floating, anti-rattle construction. Stem is of back-seating type, providing double seal and means for repacking if necessary.

**MOLDED NYLON STEM DISC:**— Considered the best material for refrigeration purposes.

**INSTALLATION:**— Cadmium plated steel mounting brackets and screws provided.

**INDIVIDUALLY CARTONED:**— Protects your investment until ready to use. Clean, safe from damage in transportation to the job.

FAMOUS STREAMLINE QUALITY THROUGHOUT  
ORDER FROM YOUR WHOLESALER



**MUELLER BRASS CO.**

PORT HURON, MICHIGAN

and sales promotion manager. **F. J. Worden** becomes assistant advertising and sales promotion manager. Coward will be assisted on merchandising by **R. B. Trick**, home freezer sales manager, and **H. A. Willis**, range sales manager.

**H. C. Gibbs** has been named district manager for Lehigh Mfg. Co., Lancaster, Pa., in the New England area, comprising New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. His headquarters is 99 Erie Ave., Newton-Highlands, Mass. Gibbs has been active in the commercial refrigeration field for 20 years, and is also district manager for Wilson Refrigeration in the same territory.



Serfass

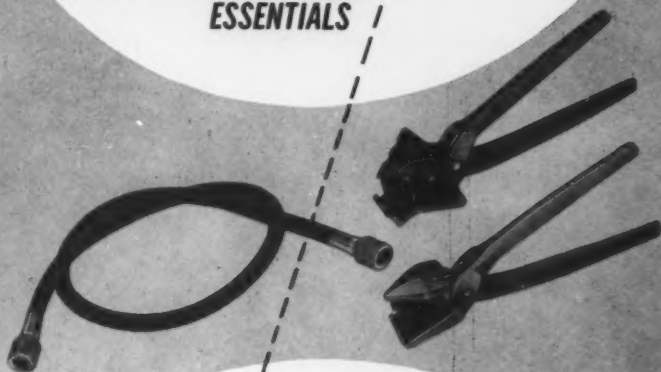
Raymond K. Serfass has been named assistant general sales manager of York Corp. Serfass formerly was industrial sales manager of the North Atlantic district of York, with headquarters in New York, a position he has held since 1945. In addition to the administrative and executive functions of his new position, Serfass will, in the absence of J. R. Hertzler, assume the authority and make such decisions as would ordinarily devolve upon the general sales manager. Serfass was succeeded as industrial sales manager of the North Atlantic district by the promotion of **Alvin N. Barnes, Jr.** a veteran sales engineer, who has been with the York firm for nearly 30 years.

**A. E. Wilson** has returned to Mills Industries, Inc., Chicago, as freezer division sales manager, coincident with the introduction of the company's new 1950 line of counter ice cream freezers. Wilson is one of the pioneers in the counter freezer industry, having spent 18 years in charge of sales with Mills previous to

# TECHNIFLEX

the great American  
headquarters for EVERYTHING  
that's MOST EFFICIENT in  
QUALITY REFRIGERATION  
ESSENTIALS

Gaskets  
Sponge Rubber Tubing  
Vibration Eliminators  
Coupling Connectors  
Vibration Mounts  
Ful-Vu Sight Glasses  
Line Check Valves  
Purging Hose  
Neoprene Covered Conduits  
Special Assemblies



NEW! Improved  
NYLO-FLEX  
Charging Line

NEW! Door Gasket  
Notchers revolutionary  
PLIER-TYPE. 2 Styles

**TECHNIFLEX CORP.**  
PORT JERVIS, N. Y.

Says  
**GASKET  
JOE**



YOU  
WON'T  
GET  
DINNERS  
AT THE  
RITZ  
LEAVING  
DOOR  
GASKETS  
ON  
THE  
FRITZ

**JARROW PRODUCTS**  
420 N. LA SALLE ST., CHICAGO 10, ILLINOIS

**SHANK**  
REFRIGERATION PRODUCTS

Recognized as the  
Symbol of Quality



Semi-Steel  
Shut-Off Valve

Highest grade non-porous metal—full size ports—clean cut threads. Back seated stem—Shank design base—perfect alignment. Long life packing ring.

3-Way Dual  
Shut-Off Valve  
For use where Refrigeration Codes require dual relief valve installations. Stainless steel stem. Indicator plate on hand wheel shows position of valve shut-off. Completely rust-proofed.

IF YOUR JOBBER DOESN'T STOCK—  
WRITE

**CYRUS SHANK CO.**  
631 W. Jackson Blvd. Chicago 6, Ill.

1949. His field staff will include W. C. Graves, J. B. Schorer, J. H. Leadaman and O. E. Phillips.

**Herbert G. Kieswetter** has been appointed assistant general manager of the mechanical goods division, United States Rubber Co. Ernest G. Brown is vice president and general manager of the division. Kieswetter formerly was vice president and assistant general manager of United States Rubber Export Co., Ltd.

**Jon Francis** has been appointed eastern sales representative of the S. A. Hirsh Mfg. Co. of Chicago, manufacturer of Hirsh shelving and uprights. Francis, who is well known in eastern food circles, will make his headquarters in New York City.

**George A. Thomson**, of 1356 Popular Ave., Memphis, Tenn., has been appointed district representative for Dean Products, Inc., Brooklyn 16, N. Y. The complete line of Dean

evaporators, cylinders, tanks and special stainless steel plates will be handled by his office. Thomson's territory will include: Tennessee, North and South Carolina, Georgia, Florida, Alabama, Arkansas, Mississippi and Louisiana.

**Anthony J. DeFino** has been appointed general manager of the Buffalo division of the Fedders-Quigan Corp., manufacturers of automotive, refrigeration, air conditioning, heating and water cooling equipment. Fino has held key positions in various phases of the company's sales and manufacturing activities centering around heat transfer equipment.



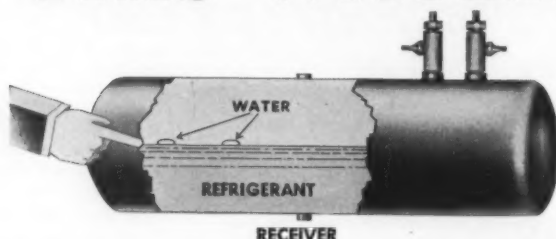
**Albert J. Brock** and **Arthur L. Scaife** have been appointed major appliance and traffic appliance merchandise managers, respectively, for the General Electric Co., it has been announced by A. M. Sweeney, general sales manager of the G-E Appliance & Merchandise department. **I. P. Pruitt** succeeds Brock as manager of sales services for the department.

**Ben W. Rist** has joined the Heat-X-Changer Co. and will be in charge of sales for the company in the midwest territory, with headquarters in Chicago. Rist formerly was with Alco Valve Co. for the past 11 years, and has had wide experience in the refrigeration industry.



**C. Mason Gerhart**, who has been assistant to the commercial sales manager of York Corp., Houston, Tex., has been transferred to the home office of the air conditioning and refrigeration firm at York, Pa., as a sales engineer.

# JUST ONE WAY TO REACH THIS WATER



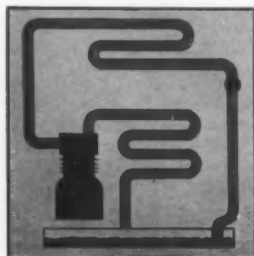
Water trapped in the receiver, or anywhere else, can only be reached with a liquid drier. How can you tell whether water is trapped in the system? You can't. So you can't be sure you're reaching all the moisture unless you use a liquid drier . . . Thawzone.

Wherever moisture goes, Thawzone goes, too. It reaches the expansion valve, the receiver, the coil, the

tubing walls, both highside and low-side. What other method can do that? You're sure you've found the moisture when you use Thawzone.

Did you know that only Thawzone actually eliminates water permanently? Other methods hold water and sometimes release it later. The water removed by Thawzone cannot possibly return. Fewer callbacks for you.

Use Thawzone in "Freons", methyl chloride, "Carrene" or isobutane. 1 teaspoonful ( $\frac{1}{8}$  oz.) per pound of refrigerant. Use half as much in hermetic units. Highside Chemicals Co., Colfax Ave., Clifton, N. J.



GOES WHEREVER WATER GOES

**THAWZONE®**  
LIQUID DEHYDRANT...  
*reaches all the moisture*





### SAGINAW JOBBER OPENS NEW DETROIT BUILDING

J. George Fischer & Sons, Inc., refrigeration supplies wholesaler with headquarters in Saginaw, Mich., has announced the start of full-scale Detroit operations in a new building just completed at 2697 West Grand Blvd.

The Fischer organization, which has maintained a sales office in Detroit for the past several years, emphasizes the fact that the new Detroit operation is not a branch but a completely equipped wholesaling house with many plus features.

General manager of the Detroit store is Deke Jones, who has headed the firm's Detroit sales office for the

### BOISE JOBBER MOVES

The Boise, Idaho, branch of Refrigerative Supply, Inc., refrigeration equipment wholesaling firm with headquarters in Seattle, Wash., now is located in its new quarters at 1030 LaPointe St. Although centrally located, the new store offers ample parking space.

past three years. Other members of the staff include: Jim Rawsthorne, sales and application engineer; Lee Jenne, specialty sales supervisor; and Nelson Babcock, head counterman.

Jenne and Babcock were transferred from the Saginaw operation. Rawsthorne is a new addition to the Fischer organization, having been in charge of refrigeration applications for Salem Engineering Co. for the past 6 years.

The new 45 x 120-foot building is modern in every detail, radiant heated, and fluorescent lighted. While much of the store's stock is neatly shelved back of the order counter, several self-service displays are pro-

vided for popular items.

The store's large showroom houses displays of the various lines of larger equipment which the firm handles, including Brunner, Bush, United, Victor, Ebco, Manitowoc, Ben-Hur and others. This display room is maintained for the benefit of Fischer dealers as a supplement to their own showrooms.

The new Fischer outlet will offer its dealers complete engineering and sales assistance on all types of commercial refrigeration and air conditioning contracts.

### HAJOCA BUYS OUT ROWLAND SUPPLY

Hajoca Corp., wholesaler of refrigeration, heating, plumbing and industrial supplies with headquarters in Philadelphia, has announced the purchase of Rowland Supply Co., High Point, N. C. Acquisition of this firm makes 32 full-scale branches for Hajoca.

O. L. Rowland, former owner of Rowland Supply, will remain in an advisory capacity for two years. C. B. Hurley has been appointed branch manager at High Point.

# PAR

**NEW!  
COMPLETE!  
IMPROVED!**

**CONVENTIONAL OR SEALED IN A WIDE RANGE OF SIZES!**



*PAR Model SC-3 (1/3 H.P.)  
close coupled unit*



*PAR Model PM-1 (1/6 H.P.)  
completely sealed unit*

*PAR heavy duty  
Model RA-2 (1/4 H.P.)*

"Quiet as a Whisper", smoother than ever with practically no "operational fatigue"—that's the new PAR line. Regardless of your application, PAR helps

eliminate misfit systems with a complete range of sizes. See what the competitively priced PAR line can do NOW for your own particular problems.

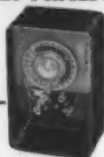
**BY COMPARISON—YOU'LL BUY PAR**



**BUY FROM YOUR REFRIGERATION WHOLESALER**

## LOOK!... *Paragon* DEFROSTING TIME SWITCHES NOW AT LOWEST NET PRICES!

SERIES 300-M  
ONLY \$17.00 LIST



FOR ALL TYPES OF  
COMMERCIAL  
REFRIGERATOR DEFROSTING:

Electric Heat • Hot Gas  
or Compression Shutdown

for UNIT COOLERS • FROZEN  
FOOD DISPLAY CABINETS  
REACH-IN CABINETS  
WALK-IN BOXES • LOCKER  
PLANTS • FUR STORAGE  
VAULTS

See your jobber or write for free  
bulletins and installation data.

**Paragon**ELECTRIC COMPANY  
1688 12th STREET • TWO RIVERS, WIS.

America's Foremost exclusive  
manufacturer of Time Control  
Switches for all uses,  
including "de-frost-it" for  
domestic refrigerators, only



## Why Freeze Yourself Out of Extra Profits?



INSTALL COMPLETE  
FOOD STORES

Now you can figure complete jobs with Hirsh-Standard Shelf Equipment! The Hirsh Plan enables you to sell shelving and equipment that the merchant can assemble himself.

- ★ EASY TO INSTALL
- ★ FULLY ADJUSTABLE
- ★ HEAVY DUTY CONSTRUCTION
- ★ PROFITABLE FOR YOU



Write now for complete information—no obligation.

**S. A. HIRSH MFG. CO.**

3119 West Lake Street  
Chicago 12, Ill. Phone SAcramento 2-3545

\*CMR

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

## ELECTRONIC CONTROL . . .

Continued from page 29

adjustment, authority adjustment, etc.

Maintenance and service on electronic controls are extremely simple. Due to the elimination of all moving parts the serviceman's duties will primarily consist of cleaning the resistance elements and checking their resistance with an ohmmeter. The electronic relay will require little maintenance outside of periodic vacuum tube tests.

Electronic air conditioning systems are not intended to replace the conventional electric systems now in use. Their main purpose is to supplement present day controls where extreme sensitivity and flexibility are required. Since the Wheatstone Bridge forms the basis for the electronic and electrical air conditioning circuits, almost any combination of both may be used to attain desired results.

(Conclusion)

BUY FROM YOUR  
REFRIGERATION WHOLESALER

## LOOK to LARKIN



for  
Quality

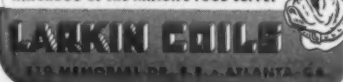
HIGH  
AND  
LOW BOY  
MODELS

LARKIN  
WALL  
HUMI-TEMP

Quality speaks a language everybody understands. Wholesalers, dealers, and users alike know that the name *Larkin* means quality—of workmanship, materials, and performance.

Manufacturers of the original Cross-Pin Coil — Humi-Temp Units — Evaporative and Air Cooled Condensers — Air Conditioning Units and Coils — Direct Expansion Water Coolers — Steel Vacuum Plate Coils — Heat Exchangers.

WATCHDOG OF THE NATION'S FOOD SUPPLY



## 50 STUDENTS GRADUATE FROM YORK INSTITUTE

Fifty students from York distributor organizations representing five foreign countries and fourteen states were graduated recently from the York Institute of Refrigeration and Air Conditioning. A banquet was held in their honor at the West York Inn.

John S. Garceau, director of advertising and sales promotion of York Corp., addressed the group, which had just completed an intensive six weeks course in commercial sales engineering or commercial service training which stressed the importance of technical fundamentals in the merchandising and servicing of air conditioning and refrigeration products.

C. J. Brillinger, director of training and education at York, served as toast master.

W. E. Landmesser, manager of resale sales, and D. C. Seitz, manager of distributor sales, presented the certificates to the graduates who came to York from the Philippine Islands, China, Canada, Colombia and Newfoundland, besides the following states: Ohio, Louisiana, New York, Massachusetts, West Virginia, New Jersey, Texas, Pennsylvania, Illinois, Alabama, Colorado, Virginia, Iowa and Georgia.

WHILE the legislative atmosphere in Britain's House of Commons may remain unchanged when sessions start in the reconstructed chamber in 1950, one thing is certain—the air the lawmakers breathe will be clean and pure.

This was revealed in word received from London that a Westinghouse Precipitron is being installed in the Parliament wing that was demolished during the war and now is being rebuilt. The cleaner is being built and installed in England under Westinghouse license.

## NEW CARRIER DEALER

Albert I. Pozner, president of Pozner Electric Co., New York City, has announced that his firm has been awarded a sales and service franchise from Carrier Corp.

The Pozner company is located at 180 East 163rd St. Alterations are now being made at this address to accommodate the new equipment. A staff of Carrier trained air conditioning specialists will be employed by Pozner to take over this new service.

# A CURTIS Franchise is **MONEY** IN THE BANK

**BECAUSE CURTIS EQUIPMENT**

**SELLS and STAYS SOLD**  
AND YOU CAN HANDLE ANY...

**AIR CONDITIONING • REFRIGERATION • or AIR MOVING JOB**

WITH THE COMPLETE **CURTIS** LINE

With the addition of new 2, 3 and 8-ton package type and 30 and 40-ton remote type air conditioners to the comprehensive Curtis line, the Curtis dealer is in his best position in history. Long known for their performance record, Curtis Packaged Air Conditioners are built to operate efficiently with minimum installation and maintenance costs.

Supported with big, colorful full page advertisements in the Saturday Evening Post, Time, Newsweek and many other consumer magazines, plus an assortment of powerful sales promotion helps, the Curtis dealer will find Curtis equipment is recognized and wanted by consumers everywhere.

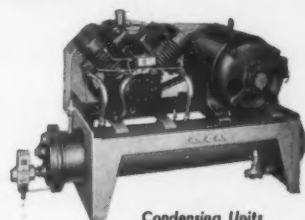
## **CURTIS Refrigerating Machine Division**

*of Curtis Manufacturing Company*

1915 Kienlen Avenue, St. Louis 20, Mo.

96 YEARS  
of  
SUCCESSFUL  
MANUFACTURING

R100-2



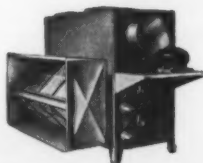
Condensing Units  
¼ H.P. thru 40 H.P.



Packaged Type  
2½ to 8 tons



Central Type  
10 and 15 tons



Ceiling and Floor Type  
Air Handling Units



Evaporative Condensers,  
and Cooling Towers  
to Match

# INCREASE Compressor Efficiency

# INCREASE Business and Profits

**Assure clean, trouble-free compressor performance with  
TEXACO CAPELLA OILS**

Refrigerating and air conditioning compressors lubricated with *Texaco Capella Oils* are remarkable for their freedom from carbon and gum . . . for their clean cylinders, valves and coils. This, of course, means greater customer satisfaction . . . more profitable business for you.

*Texaco Capella Oils* are specially refined to remove impurities which, if present, might cause gumming and sludging. They are exceptionally stable lubricants with very low pour tests and very high resistance to oxidation. They are moisture-free, too . . . thus do not react with refrigerants.

*Texaco Capella Oils* are approved by leading compressor manufacturers, and you can get them

in suitable viscosities for every type and size of compressor. The convenient 1-quart, 1-gallon and 5-gallon containers are sealed to prevent contamination.

Let *Texaco Capella Oils* help you increase your business and profits. The Texas Company, 135 East 42nd Street, New York 17, N. Y.

**FREE LUBRICATION GUIDE** — Lists makes and types of compressors and refrigerants used in 63 electric refrigerating units and 31 air conditioning units. Shows recommended grade of *Texaco Capella Oil* for each. Use guide as wall chart, or bind into service manual.



## TEXACO Capella Oils

FOR ALL AIR CONDITIONING AND REFRIGERATING EQUIPMENT



TUNE IN . . . TEXACO presents MILTON BERLE on television every Tuesday night. METROPOLITAN OPERA radio broadcasts every Saturday afternoon.



# THE PRACTICAL Refrigeration Applications MANUAL ... by Harold Smith

**T**HE Practical Refrigeration Applications Manual extends a helping hand to those refrigeration and air conditioning men who occasionally encounter field engineering problems too tough for them to handle. Space limitations make it impossible to give complete detailed information covering each step necessary for the installation or erection of refrigeration equipment, insulation or fixtures. It is necessary to assume that those readers who request assistance with their problems are familiar with these basic fundamentals. If they are not, it is suggested that they seek this advice from their sources of supply when purchasing the materials which they intend to use on the job. Most suppliers are equipped to furnish such information. Readers are urged to submit their problems to this department. Each letter of inquiry will be answered personally by the author. The most interesting ones will be published in these columns. All problems should be clearly and completely stated and addressed to: **COMMERCIAL REFRIGERATION AND AIR CONDITIONING, Manual Dept., 1240 Ontario St., Cleveland 13, Ohio.**

## PROBLEM

**I** HAVE a walk-in cooler in the basement of a restaurant which is causing me a lot of trouble.

The cooler is ten or more years old. It has sawdust for insulation. This was a home made job. There is a 1½-hp. condensing unit running the job and a blower coil inside the cooler which is rated at 800 Btu per 1 degree t.d. The job runs continuously and we can't get the temperatures below 40 to 50 F. inside. The customer is keeping meat, food and soft drinks and is insisting on a temperature of at least 36 F. in the cooler.

I think the condensing unit is big enough. Do I need a larger blower coil or maybe two blower coils to make this job work right?

## SOLUTION

**F**ROM the information you have given us it would seem there are several things wrong with this job.

The insulation used in a walk-in cooler is of the utmost importance. The use of efficient insulation materials, in the proper thickness needed for the temperature desired, is one of the most important requirements for satisfactory refrigeration results.

Proper insulation, used in a cooler,

is one of the best and, in the long run, cheapest investments that anyone can make. The cost of adequate insulation materials is a one-time investment which insures satisfactory temperatures at a minimum monthly operating cost in electricity.

Many people not knowing the relative value or efficiency of different insulating materials make the mistake of using materials entirely unsuited for good results. There are insulating materials made from wood fibers, properly processed and installed, that work very satisfactorily and have a high relative efficiency. Sawdust, on the other hand, which many novices have used for insulation purposes, is probably the poorest kind of material anyone can use.

This is particularly true if the sawdust is not densely packed and properly bonded from moisture. Sawdust settles and packs over the years, frequently leaving a space anywhere from 3 to 4 feet high in the walls where there is no insulation material whatsoever.

The relative efficiency of sawdust, in the first place, is low compared to most recognized insulating materials. When it packs or becomes saturated with moisture, it is more apt to conduct heat through the walls than to retard the flow of heat. We are, therefore, first of all of the opinion that the insulation in your cooler has little or no value.

A rough estimate of your refrigeration needs with this cooler, using sawdust applied ten or more years ago, would be something like 24,000

Btu per hour. This would immediately indicate the need of approximately two 1½ hp. condensing units and several much larger blower coils in order to give a box temperature of 36 F. with on and off operating cycles.

If 4 inches of sheet cork or its equivalent could be installed, properly bonded against moisture, the load would be cut to almost in half. The 1½ hp. condensing unit and blower coil being used would undoubtedly handle the refrigeration load satisfactory with much lower operating expense, satisfactory box temperatures, and on and off cycles of the machine.

Usually, when using a large condensing unit of 1½ hp. or more, two blower coils provide a more generally satisfactory job than one. Instead of one blower coil of 800 Btu per 1 degree t.d., or 12,800 Btu per 16 degree t.d., we would suggest two blower coils each with 450 Btu per 1 degree t.d., or 7200 Btu per 16 degree t.d., making a total 14,400 Btu.

We would accordingly recommend that the cooler be reoperated and that at least 4 inches of cork board or its equivalent, properly bonded, be installed in the floor, walls and ceiling of this cooler. If this renovation is impossible, try to talk the customer into the purchase of a new cooler of good standard construction.

If the customer does not want to follow either of the above recommendations, the only other recourse, in our opinion, is to supply double the blower coil and condensing unit equipment with the resulting high increase in operating expenses.

We believe we have fully covered the courses that can be followed to get satisfactory results with this job you are attempting to handle.

### PROVERB OF THE MONTH

**H**ERE'S a pungent paragraph from a recent issue of *Appliance & Radio Dealers News* which might well be posted on the sales office bulletin board of every commercial refrigeration and air conditioning dealership in the country:

"Samson was a piker. He killed only a thousand men with the jawbone of an ass. Every hour in the day ten thousand sales are killed with the same weapon."

### ALABAMA FIRM FORMED

A new firm recently incorporated in Andalusia, Ala., is Waller-Barnes-Anthony Service Co., which will specialize in the sale of air conditioning, heating equipment and building specialties. Incorporators are Bill Waller, George Barnes, and E. E. Anthony Jr.

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REFRIGERATION WHOLESALE**

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Replace It right with Ranco

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World's Largest Manufacturers of Refrigeration Controls . . . more than 20,000,000 controls now in use

## HERE'S HOW!

Edited by  
Warren W. Farr

### Six Steps in Making A Cooling Load Estimate

Are you ever troubled by the proper sequence of calculations in preparing a cooling load estimate? Here are the six steps which one air conditioning engineer follows from the determination of room conditions to the selection of the proper equipment:

(1) Pre-selection of outside and room conditions.

(2) Calculation of ventilation requirements in terms of air quantity.

(3) Determination of the by-pass outside air load using the coil by-pass factor determined from the pre-selected coil depth and face velocity. This factor is a term for expressing coil performance in relation to the room air condition and the apparatus dew point.

(4) Determination of the sensible heat factor and from this the coil ap-

### WANT TO EARN \$5?



You don't have to be a writer or a literary genius! Just jot down some of the shortcuts you've developed in your maintenance or installation work and send them to **HERE'S HOW EDITOR, COMMERCIAL REFRIGERATION AND AIR CONDITIONING**. Your \$5 will be paid promptly when your maintenance tip is published in the magazine. Let's hear from you!

paratus dew point.

(5) Calculation of the dehumidified air quantity based upon room conditions, the coil apparatus dew point, and the coil by-pass factor.

(6) Selection of the equipment as determined by the grand total heat load and the refrigerant temperature.

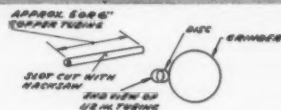
### Points on Installing Low Pressure Systems

8. *Setting the controls* is the last but by far not the least of the fundamental steps of installation, and would require setting the automatic control, whether low pressure or thermostatic, at predetermined cut-off and cut-on points that would maintain desired design conditions. If equipped with a safety or high pressure cut-off device, consideration would have to be given to its particular setting, which would be governed by the an-

ticipated average back pressure, condensing medium temperature, and resultant operating head pressure. After the system had operated for a sufficient pressure, coil temperature, and fixture temperature, the expansion valve superheat setting would have to be checked and, if necessary, adjusted to suit the requirements of the particular type of cooling coil and application in order to maintain maximum flooded conditions within the evaporator, and thus gain full effectiveness from the entire evaporator surface.

The foregoing steps or stages in making the installation of commercial refrigerating equipment are recognized as basic or fundamental, and if

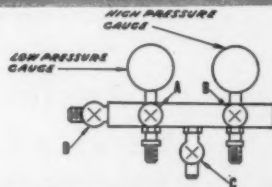
### I do it this way...



**I** HAVE found it necessary at times to reduce the diameter of a valve disc. To simplify this process and retain a uniform disc I use a hacksaw to cut a slot about  $\frac{1}{8}$  of the way through a short piece of  $\frac{1}{2}$ -inch tubing ( $\frac{3}{8}$  or  $\frac{5}{8}$ -inch tubing may be used for smaller or larger discs). Then I insert the disc in the slot and hold it gently against the grinding wheel, as illustrated, so that the disc will rotate with the grinder. With a little practice you will find that by using this method you can reduce the size of any disc and at the same time retain its roundness.

Einar H. Martinson  
Minneapolis, Minn.

### I do it this way...



**T**O GREATLY increase the flexibility of a standard gauge manifold, simply install two small  $\frac{1}{8}$ -inch IPT x  $\frac{1}{4}$ -inch SAE valves as indicated at points C and D on the sketch above.

Valve C can be used to bypass gauges or to connect to gas drum, while valve D can be used to purge the system and draw off oil or dehydrant, or to evacuate a high side float system. To purge a system with this unit, simply close valves A and C, and open valves B and D.

I have found this tool invaluable as a time-saver in servicing any job, as it eliminates the need for disconnecting hoses for each separate operation and you have a complete control of each operation.

Leonard Bibik  
Detroit, Michigan

# Genuine Joe Says:

## BE PROFIT-WISE

### Stock Wagner Standard Rotors



It is often more economical to replace a burned-out rotor than to rewind it . . . small motors move through your shop fast and your winders are kept free for larger jobs that make more profit for you.

Rotor replacement is a simple 1-2-3 job when you keep a stock of Wagner replacement rotors on hand. The *exclusive* "tell-all" label on the Wagner Rotor Package, when used with Wagner's K & M specification lists, takes all the guesswork out of rotor replacement on Wagner motors.

### Replace With Wagner Service Exchange Motors



**BE PROFIT-WISE . . .**  
Stock a few new Wagner Motors, too. You'll find many instances when a new motor means a ready sale.

You can build lasting customer satisfaction by keeping a stock of Wagner Service Exchange Motors on hand—for emergencies—for occasions when your customer needs immediate service—and for the replacement of motors that are "too far gone" to repair economically. Wagner Service Exchange Motors are fully guaranteed against defective material or workmanship for one year. The service exchange plan includes Capacitor-Start Motors from  $\frac{1}{8}$  to  $\frac{1}{2}$  horsepower and Repulsion-Start Induction Motors from  $\frac{1}{8}$  to 5 horsepower inclusive.

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care, neatness, and tidiness are observed throughout the procedure, the system should operate efficiently and require the minimum of service adjustments. This in turn, will promote user satisfaction and reflect to the credit of all concerned.

### I do it this way...

**W**HEN replacing a valve plate on a compressor, where the suction reeds hang on two small pins to each bore, these reeds will sometimes fall off the pins and give trouble.

To eliminate this problem, simply take a piece of paper and lay it flat over part of the bore so that it supports the ends of the suction reeds opposite the small pins. Then put on the valve plate and gasket. In this way it is possible to wiggle the valve plate and gasket about and get it located over the small pins without any danger of losing the suction reeds. Next, put on the head and gasket, start a few bolts on the pin side of the suction reeds, then gently remove the paper. The suction reeds will stay put.

*N. Howse,  
Shreveport, La.*

### Question Corner

**Question:** When a liquid cooling fixture such as a brine or sweet water bath is installed in a multiple system, should liquid and suction stop magnet valves always be installed?

**Answer:** With a sweet bath such as installed in a soda fountain or beverage cooler it is good practice to install only a suction pressure control valve to maintain a constant temperature in the fixture. With a brine installation, if the desired temperature is lower than the rest of the installation a check valve should be installed in the suction line. The pressure control on the multiple unit always controls the lowest temperature.

### UNITS TINTED TO TASTE

Frost Refrigeration, Inc., New York City, has offered to tint refrigerators it sells any of the 14 colors to harmonize with kitchen color schemes. The tinting is done in the dealer's reconditioning shop.

**BUY FROM YOUR  
REFRIGERATION WHOLESALER**



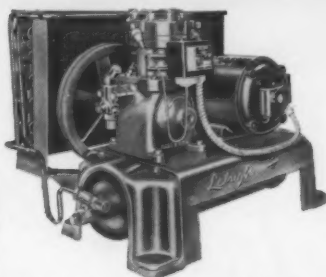
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### A COMPLETE LINE OF CONDENSING UNITS from 1/4 H.P. to 5 H.P.



1/2 H.P. Heavy Duty Air Cooled Unit

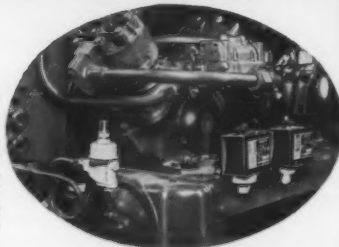
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- ★ Standard Air Cooled—1/2 H.P.
- ★ Heavy Duty Air Cooled—1/3, 1/2, 3/4, 1, 1 1/2, 2, 3 H.P.
- ★ Water Cooled—1/2, 3/4, 1, 1 1/2, 2, 3, 5 H.P.
- ★ Combination Air and Water Cooled—1/2, 3/4, 1, 1 1/2, 2, 3 H.P.
- ★ Truck Units—3/4, 1, 1 1/2, 2 H.P.
- ★ Automatic High Side Defrost Units
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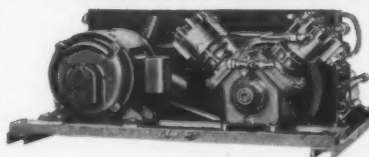
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—for evaporator temperatures below 32°F. A sensational engineering development by the LEHIGH TEAM. Can be used on any evaporator. Compact—simple—fool-proof—LOW COST! Photo shows Lehigh automatic defrost controls on a 3/4 H.P. Heavy Duty air cooled unit.



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### LEHIGH Engineering Is Improving TRUCK REFRIGERATION EFFICIENCY



Lehigh's sturdy, space-saving truck units are doing an outstanding job for many of America's largest carriers. If your problem is truck refrigeration the LEHIGH TEAM can place a wealth of valuable data at your disposal. The 1 H.P. Unit illustrated is only 13" high.

Available also as an Automatic High Side Defrost Unit

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# *Drier* THAN THE SAHARA

## ANSUL *Refrigerants*

### ANSUL OIL



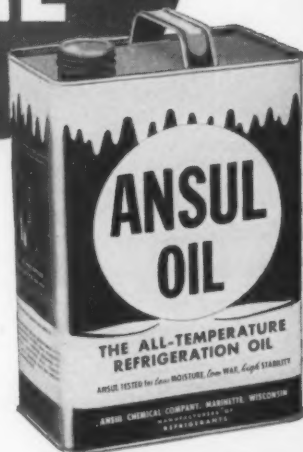
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**D**RYNESS is a critical requirement in the specifications of ANSUL Refrigerants and ANSUL Refrigeration Oils. To safeguard the dryness of Ansul Refrigeration Products, specially designed container-drying and product-dehydrating equipment is used to eliminate the last trace of moisture.

Moisture in refrigeration systems results in the formation of ice, rust, sludges, and contributes to the development of other impurities and complications. These seriously interfere with the proper operation of a refrigeration system.

ANSUL Technicians have prepared a series of bulletins on the effects of moisture and other foreign matter in refrigeration systems. Copies may be obtained from ANSUL wholesalers or by writing directly to Ansul Research.



#### ANSUL 150 OIL —

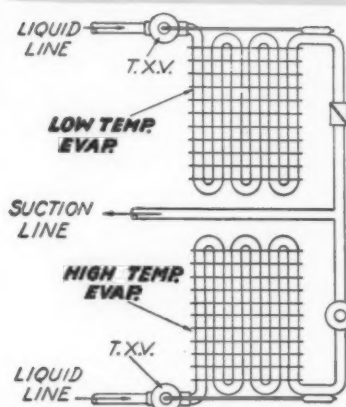
The All-Temperature Refrigeration Oil — is sold by leading refrigeration wholesalers everywhere. (If you require a higher viscosity oil ask for ANSUL 300.)

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REFRIGERATION DIVISION, MARINETTE, WISCONSIN


ANSUL SULFUR DIOXIDE, ANSUL METHYL CHLORIDE, ANSUL OIL, KINETIC'S "FREONS"

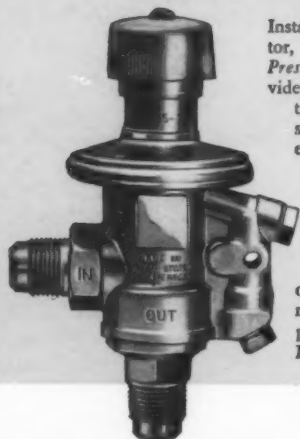
# Here's Double Protection for Your Multiple Temperature Systems



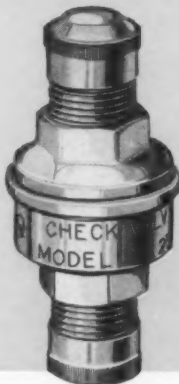
**1. ON THE LOWER TEMPERATURE EVAPORATOR —**  **Model 234**  
Refrigerant Check Valve Prevents Reverse Flow of Gas from High Temperature Evaporator during Off-Cycle

**2. ON THE HIGHER TEMPERATURE EVAPORATOR —**  **Model 235-S**  
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Use these two  Valves wherever two or more evaporators must be operated at different temperatures from one condensing unit



Installed in the warmer evaporator, A-P Model 235-S Suction Pressure Regulating Valve provides closer, more accurate control of desired pressures necessary to maintain steady higher temperatures. It can be easily adjusted without waiting for the system to settle down. This is possible only because of the handy adjusting knob and the pressure-graduated scale on the collar, permitting a range from 0" to 40 lbs. Capacity, ½ ton Freon, ¼ ton Methyl or Sulphur.



Then in the colder evaporator outlet line, an A-P Model 234 Check Valve prevents backflow of the refrigerant from the warmer to colder evaporator during the off-cycle. Compact, simple in construction, this Check Valve provides positive seal-off with minimum pressure drop. It may be easily installed in any position, vertical or horizontal. Light spring pressure keeps self-aligning disc in place for positive seating at any pressure. Leak-proof construction, complete corrosion resistance, easy cleaning and inspection, proven durability are other Model 234 advantages that assure customer satisfaction.

Standardize on this double protection for all your two-temperature systems. Your Refrigeration Wholesaler stocks A-P Check Valves and Suction Pressure Regulating Valves — or write direct for bulletins.

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# Cancer's danger signals

1. Any sore that does not heal
2. A lump or thickening in the breast or elsewhere
3. Unusual bleeding or discharge
4. Any change in a wart or mole
5. Persistent indigestion or difficulty in swallowing
6. Persistent hoarseness or cough
7. Any change in normal bowel habits

## can be your safety signals

Cancer is curable if discovered early and treated properly

If any of these symptoms appear, see your doctor *at once*.

Write for the booklet about cancer. Just address your request to "CANCER".

AMERICAN CANCER SOCIETY, INC.



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